P-A STACKS

SEPTEMBER 1983 NUMBER 469 -- Part I

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Solar-Geophysical Data prompt reports

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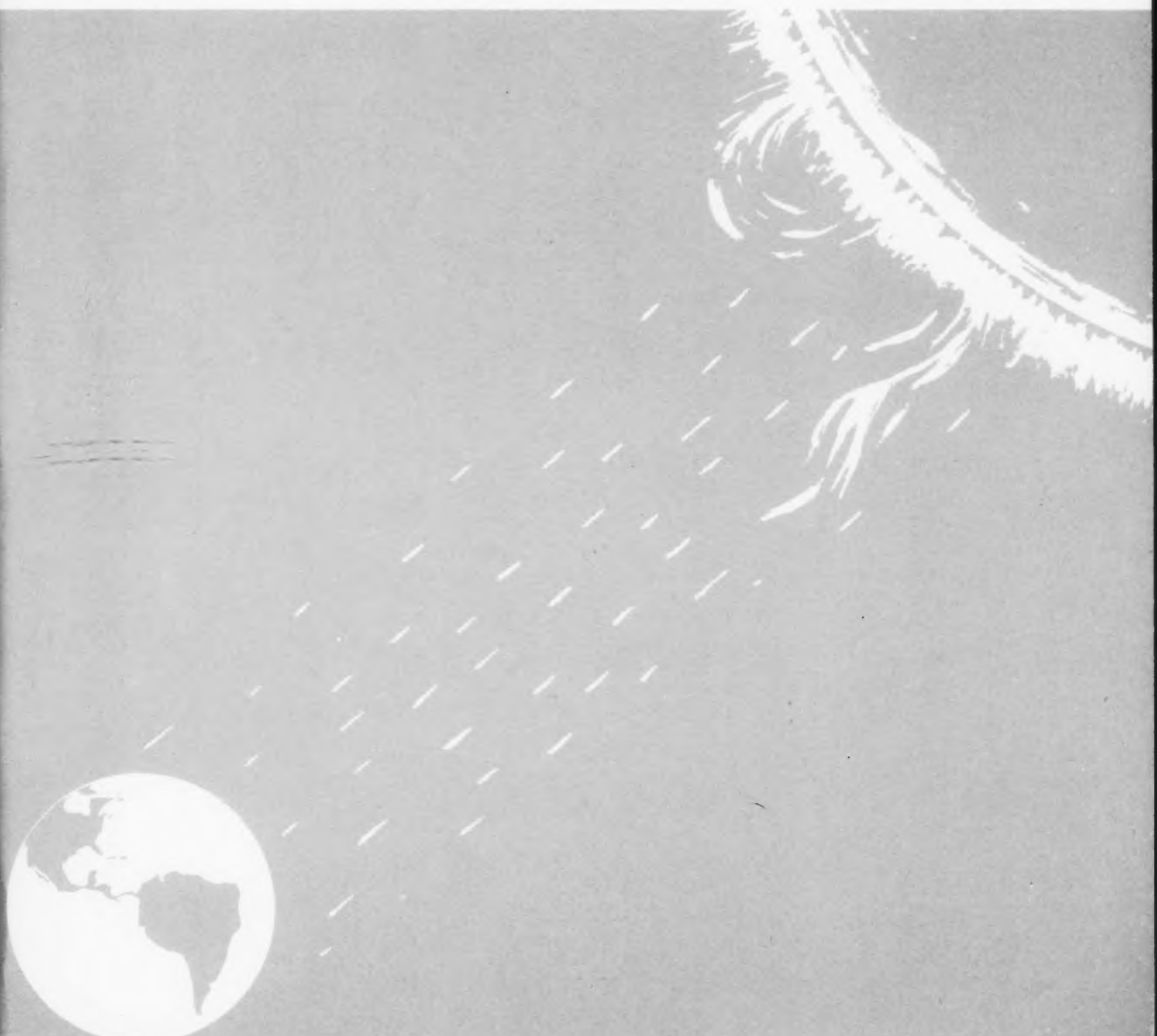
UNITED STATES OF AMERICA

Data for August 1983, July 1983 & Late Data
Explanation of Data Reports Issued as Number 462 (Supplement) February 1983



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Solar - Geophysical Data

Part I (Prompt Reports)

NO. 469 SEPTEMBER 1983

DATA FOR
AUGUST 1983
JULY 1983

Michael A. Chinnery, Director
NATIONAL GEOPHYSICAL DATA CENTER
BOULDER, COLORADO

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4	Jan 59 - Dec 59	Microfilm	12	Oct 66 - Dec 66	Microfilm	20	Jan 71 - Jun 71	Microfilm
5	Jan 60 - Dec 60	Microfilm	13	Jan 67 - Dec 67	Microfilm	21	Jul 71 - Dec 71	Microfilm
6	Jan 61 - Dec 61	Microfilm	14	Jan 68 - Jun 68	Microfilm	22	Jan 72 - Jun 72	Microfilm
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NUMBER 469

(Issued in Two Parts)

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*Solar radio noise bursts observed at Athens, Learmonth, Manila, Palehua and Sagamore Hill during Aug 1979 through Oct 1980 appear in SOLAR-GEOPHYSICAL DATA, No. 461, Part II, pages 103-235.

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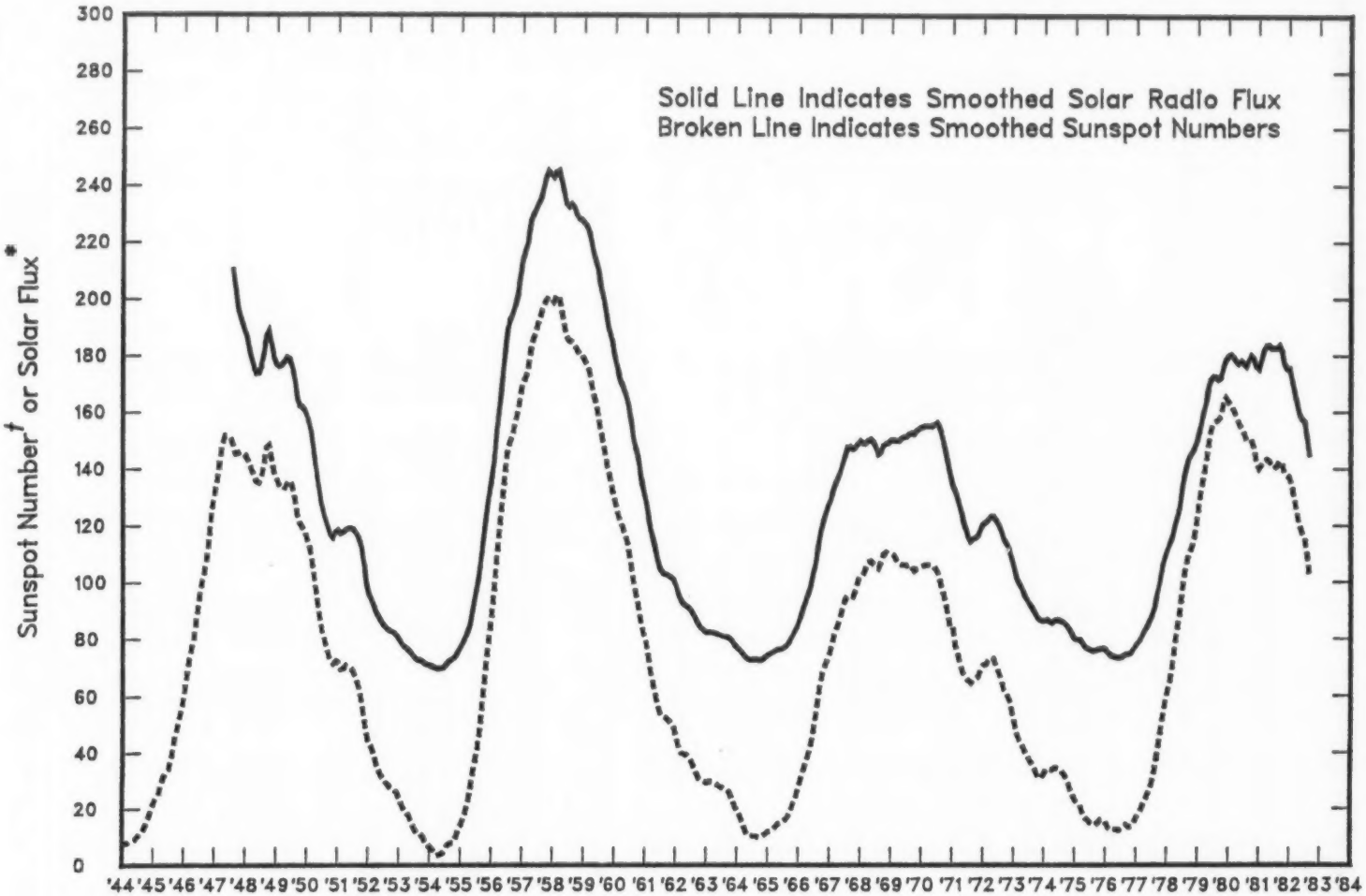
January 1944 – September 1982



* Solar Flux Units (10^{-22} W/m^2 Hz) Adjusted to 1 A.U., Ottawa Series D.
† Reduced Zürich Sunspot Numbers.

National Geophysical Data Center

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

SUMMARY OF THE GEOALERT MESSAGES AUGUST 1983

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
213	01	31	179	153	011	S14W64	0	0	0		01	S14W64	Q	SOLALERT 01
						N10W49	3	0	0			N10W49	E	MAGQUIET
						S22W22	0	0	0			S22W22	Q	
						S17W13	0	0	0			S17W13	Q	
						S10E30	8	0	0			S10E30	E	
						S20E37	2	0	0			S20E37	Q	
						S06E42	2	0	0			S06E42	Q	
						S10E48	0	0	0			S10E48	Q	
214	02	01	164	147	013	N13W62	2	0	0	PRESTO XRAY EVENT M8/2B	02	N13W62	Q	SOLALERT 02
						S22W35	0	0	0	S08E34 01/0250Z DURATION		S22W35	Q	MAGALERT 03
						S15W29	0	0	0	66 MINUTES. TENFLARE 530		S15W29	Q	
						S10E17	10	1	0	FLUX UNITS.01/0313Z		S10E17	A	
						S21E24	1	0	0	DURATION 60 MINUTES.		S21E24	Q	
						S05E27	0	0	0			S05E27	Q	
						S09E34	0	0	0			S09E34	Q	
						N04E77	1	0	0			N04E77	Q	
215	03	02	158	144	025	N13W74	2	0	0		03	N13W74	Q	SOLALERT 03
						S22W48	0	0	0			S22W48	Q	MAGALERT
						S15W44	0	0	0			S15W44	Q	03/04
						S10E02	5	2	0			S10E02	A	
						S22E14	1	0	0			S22E14	Q	
						S04E14	0	0	0			S04E14	Q	
						S11E19	0	0	0			S11E19	Q	
						N04E63	0	0	0			N04E63	Q	
216	04	03	174	141	015	N13W87	0	0	0	PRESTO TENFLARE 2433 FLUX	04	N13W87	E	SOLALERT
						S22W61	2	0	0	UNITS 03/1446Z DURATION 23		S22W61	Q	04/XX
						S15W56	0	0	0	MINUTES		S15W56	Q	MAGALERT
						S09W13	6	1	0			S09W13	E	04
						S21W01	1	0	0			S21W01	E	
						S04W00	0	0	0			S04W00	Q	
						S12E10	0	0	0			S12E10	Q	
						N03E47	0	0	0			N03E47	Q	
217	05	04	180	133	010	S22W75	5	0	0	PRESTO TENFLARE 180 FLUX UNITS	05	S22W75	Q	SOLALERT
						S09W26	8	1	0	04/0341Z DURATION 4 MINUTES		S09W26	E	05/XX
						S04W15	0	0	0			S04W15	Q	MAGALERT
						S22W14	0	0	0			S22W14	Q	05/XX
						S10W07	0	0	0			S10W07	Q	
						S18W07	0	0	0			S18W07	Q	
						S17E22	0	0	0			S17E22	Q	
						N01E33	0	0	0			N01E33	Q	
						N03E35	1	0	0			N03E35	Q	
						N11E48	0	0	0			N11E48	Q	
218	06	05	138	133	005	S22W86	0	0	0		06	S22W86	Q	SOLALERT
						S09W38	4	1	0			S09W38	A	06/XX
						S22W27	0	0	0			S22W27	Q	MAGNIL
						S04W25	0	0	0			S04W25	Q	
						S19W24	0	0	0			S19W24	Q	
						S17E08	0	0	0			S17E08	Q	
						N03E23	0	0	0			N03E23	Q	
						N13E38	0	0	0			N13E38	Q	
219	07	06	118	138	005	S10W52	8	0	0		07	S10W52	E	SOLALERT
						S22W40	2	0	0			S22W40	Q	07/XX
						S04W39	0	0	0			S04W39	Q	MAGQUIET
						S18W05	0	0	0			S18W05	Q	
						N03E08	0	0	0			N03E08	Q	
						N02E10	0	0	0			N02E10	Q	
						N05E67	2	0	0			N05E67	Q	
220	08	07	106	138	013	S10W64	7	1	0		08	S10W64	E	SOLALERT
						S21W54	0	0	0			S21W54	Q	08/XX

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

SUMMARY OF THE GEOALERT MESSAGES — AUGUST 1983

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
						S04W53	0	0	0			S04W53	Q	MAGALERT
						S18W19	0	0	0			S18W19	Q	08/XX
						N03W06	0	0	0			N03W06	Q	
						N06E51	0	0	0			N06E51	Q	
						S06E76	5	1	0			S06E76	E	
221	09	08	076	137	045	S10W75	3	0	0	PRESTO TENFLARE 180 FLUX	09	S10W75	E	SOLALERT
						S22W67	1	0	0	UNITS 08/0250Z DURATION 27		S22W67	Q	09/XX
						S18W32	0	0	0	MINUTES		S18W32	Q	MAGNIL
						S06E64	3	2	0			S06E64	A	
222	10	09	142	139	013	S10W87	2	0	0		10	S10W87	E	SOLALERT
						S23W82	0	0	0			S23W82	Q	10/XX
						S17W48	0	0	0			S17W48	Q	MAGQUIET
						S09E45	0	0	0			S09E45	E	
						S05E52	0	0	0			S05E52	Q	
						S07E54	6	0	0			S07E54	E	
223	11	10	118	148	009	S09E33	1	0	0		11	S09E33	A	SOLALERT
						S02E34	2	0	0			S02E34	Q	11/XX
						S06E41	8	0	0			S06E41	A	MAGQUIET
						S04E75	2	0	0			S04E75	Q	
						N08E81	0	0	0			N08E81	Q	
224	12	11	127	147	010	S02E20	0	0	0		12	S02E20	A	SOLALERT
						S10E21	2	0	0			S10E21	A	12/XX
						S07E27	2	0	0			S07E27	A	MAGQUIET
						S04E61	2	0	0			S04E61	Q	
						S19E66	1	0	0			S19E66	Q	
						N07E67	0	0	0			N07E67	Q	
225	13	12	125	155	025	S02E06	2	0	0		13	S02E06	Q	SOLALERT
						S10E06	16	0	0			S10E06	A	13/XX
						S06E12	8	0	0			S06E12	A	MAGQUIET
						S04E47	0	0	0			S04E47	Q	
						N07E53	0	0	0			N07E53	Q	
						S20E53	1	0	0			S20E53	Q	
						N18E75	0	0	0			N18E75	Q	
226	14	13	147	144	022	S01W07	0	0	0		14	S01W07	Q	SOLALERT
						S10W07	7	1	0			S10W07	A	14/XX
						S06E01	4	1	0			S06E01	A	MAGQUIET
						S04E34	1	0	0			S04E34	Q	
						S18E40	1	0	0			S18E40	Q	
						N07E41	0	0	0			N07E41	Q	
						N19E61	0	0	0			N19E61	Q	
227	15	14	126	139	011	S09W20	6	1	0	PRESTO TENFLARE 210 FLUX	15	S09W20	A	SOLNIL
						S06W13	0	0	0	UNITS 14/1640Z DURATION 5		S06W13	A	MAGQUIET
						S01W18	0	0	0	MINUTES.		S01W18	Q	
						N22E04	0	0	0			N22E04	Q	
						S04E19	1	0	0			S04E19	Q	
						S19E25	1	0	0			S19E25	Q	
						N08E28	1	0	0			N08E28	Q	
						N19E49	0	0	0			N19E49	Q	
228	16	15	143	129	010	S09W36	8	0	0		16	S09W36	A	SOLQUIET
						S01W33	0	0	0			S01W33	Q	MAGQUIET
						S05W24	6	0	0			S05W24	A	
						S04E07	0	0	0			S04E07	Q	
						S20E13	1	0	0			S20E13	Q	
						N08E15	1	0	0			N08E15	Q	
						N20E35	2	0	0			N20E35	Q	
						N19E44	0	0	0			N19E44	Q	
229	17	16	120	129	003	S08W49	10	0	0		17	S08W49	A	SOLQUIET
						S02W47	2	0	0			S02W47	Q	MAGQUIET

ALERT PERIODS
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NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
						N07W00	0	0	0			N07W00	Q	
						S06W00	0	0	0			S06W00	Q	
						S20E03	0	0	0			S20E03	Q	
						S07E14	0	0	0			S07E14	Q	
						N19E22	0	0	0			N19E22	Q	
						N21E31	1	0	0			N21E31	Q	
230	18	17	110	124	003	S08W62	11	2	0	PRESTO TENFLARE 190 FLUX UNITS	18	S08W62	A	SOLQUIET
						S02W60	2	0	0	17/0232Z DURATION 10 MINUTES.		S02W60	Q	MAGQUIET
						N07W13	0	0	0	TENFLARE 138 FLUX UNITS		N07W13	Q	
						S06W12	0	0	0	17/1904Z DURATION 6 MINUTES.		S06W12	Q	
						S21W11	0	0	0			S21W11	Q	
						S18E01	0	0	0			S18E01	Q	
						N19E10	0	0	0			N19E10	Q	
						N13E81	0	0	0			N13E81	Q	
231	19	18	094	119	004	S08W74	4	0	0		19	S08W74	E	SOLQUIET
						S02W74	1	0	0			S02W74	Q	MAGQUIET
						S05W28	0	0	0			S05W28	Q	
						N07W26	6	0	0			N07W26	Q	
						S21W24	0	0	0			S21W24	Q	
						N19W05	0	0	0			N19W05	Q	
						N14E66	0	0	0			N14E66	Q	
232	20	19	084	115	009	S03W88	0	0	0		20	S03W88	Q	SOLQUIET
						S06W42	0	0	0			S06W42	Q	MAGQUIET
						N07W40	0	0	0			N07W40	Q	
						N18W17	0	0	0			N18W17	Q	
						N20W11	0	0	0			N20W11	Q	
						N15E58	1	0	0			N15E58	E	
233	21	20	056	116	012	N08W54	1	0	0		21	N08W54	Q	SOLQUIET
						N19W32	0	0	0			N19W32	Q	MAGALERT 21
						N14E46	3	0	0			N14E46	E	
						S12E75	0	0	0			S12E75	Q	
234	22	21	078	112	031	N07W70	0	0	0		22	N07W70	Q	SOLQUIET
						N18W45	0	0	0			N18W45	Q	MAGNIL
						S11W09	0	0	0			S11W09	Q	
						S18E17	0	0	0			S18E17	Q	
						N14E33	2	1	0			N14E33	E	
						S13E62	0	0	0			S13E62	Q	
235	23	22	082	109	010	N07W85	1	0	0		23	N07W85	Q	SOLQUIET
						N20W62	1	0	0			N20W62	Q	MAGQUIET
						S11W21	0	0	0			S11W21	Q	
						S18E05	0	0	0			S18E05	A	
						N14E19	4	0	0			N14E19	E	
						S13E49	0	0	0			S13E49	Q	
236	24	23	078	108	030	N19W75	1	1	0	PRESTO TENFLARE 140 FLUX UNITS	24	N19W75	Q	SOLQUIET
						S13W19	0	0	0	23/2322Z DURATION 8 MINUTES		S13W19	Q	MAGQUIET
						S17W09	0	0	0			S17W09	Q	
						N13E05	0	0	0			N13E05	Q	
						S12E33	0	0	0			S12E33	Q	
						S08E73	0	0	0			S08E73	Q	
237	25	24	092	106	025	N21W88	0	0	0		25	N21W88	Q	SOLQUIET
						S18W22	0	0	0			S18W22	Q	MAGQUIET
						N13W13	0	0	0			N13W13	Q	
						S11W08	0	0	0			S11W08	Q	
						S12E20	0	0	0			S12E20	Q	
						S11E62	0	0	0			S11E62	Q	
						S09E82	0	0	0			S09E82	Q	
238	26	25	070	102	032	N14W23	0	0	0		26	N14W23	Q	SOLQUIET
						S12E08	0	0	0			S12E08	Q	MAGQUIET

ALERT PERIODS
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NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
						S11E50	1	0	0			S11E50	Q	
						S15E60	0	0	0			S15E60	Q	
						S09E66	0	0	0			S09E66	Q	
239	27	26	080	104	027	N13W37	0	0	0		27	N13W37	Q	SOLQUIET
						S16W26	0	0	0			S16W26	Q	MAGQUIET
						S12W06	0	0	0			S12W06	Q	
						S10E34	1	0	0			S10E34	Q	
						S17E43	0	0	0			S17E43	Q	
						S09E52	0	0	0			S09E52	Q	
240	28	27	084	102	008	S15W39	0	0	0		28	S15W39	Q	SOLQUIET
						N01W30	0	0	0			N01W30	Q	MAGQUIET
						S11W19	2	0	0			S11W19	Q	
						S09E24	1	0	0			S09E24	Q	
						S17E29	1	0	0			S17E29	Q	
						S09E37	0	0	0			S09E37	Q	
241	29	28	094	101	007	S02W42	0	0	0		29	S02W42	Q	SOLQUIET
						S11W32	1	0	0			S11W32	Q	MAGQUIET
						S08W01	0	0	0			S08W01	Q	
						S05E14	0	0	0			S05E14	Q	
						S16E16	1	0	0			S16E16	Q	
						S20E23	0	0	0			S20E23	Q	
						S09E25	0	0	0			S09E25	Q	
242	30	29	087	104	018	S01W59	0	0	0		30	S01W59	Q	SOLQUIET
						S11W45	1	0	0			S11W45	E	MAGALERT
						S08W17	0	0	0			S08W17	Q	MINOR 30/XX
						S16E02	0	0	0			S16E02	Q	
						S05E03	0	0	0			S05E03	Q	
						S08E11	0	0	0			S08E11	Q	
						S20E11	1	0	0			S20E11	Q	
243	31	30	100	102	018	S00W73	0	0	0		31	S00W73	Q	SOLQUIET
						S11W60	1	0	0			S11W60	Q	MAGNIL
						S08W31	0	0	0			S08W31	Q	
						S17W11	1	0	0			S17W11	Q	
						S05W09	2	0	0			S05W09	Q	
						S20W02	0	0	0			S20W02	Q	
						S09W00	0	0	0			S09W00	Q	
						N12E72	0	0	0			N12E72	Q	
244	01	31	083	102	021	S01W85	0	0	0		01	S01W85	Q	SOLQUIET
						S12W77	0	0	0			S12W77	Q	MAGQUIET
						S08W58	2	0	0			S08W58	Q	
						S16W24	0	0	0			S16W24	Q	
						S08W14	0	0	0			S08W14	Q	
						N12E60	0	0	0			N12E60	Q	
						S09E75	0	0	0			S09E75	Q	

NO=MESSAGE SERIAL NUMBER, DI=DATE OF ISSUE, DO=DATE OF OBSERVATION, WOLF=WOLF NUMBER, 10CM=10CM SOLAR FLUX, A=A INDEX, LOC=LOCATION LATITUDE AND LONGITUDE, TOT=TOTAL, M=NUMBER OF M FLARES, X=NUMBER OF X FLARES, DA= DATE OF FORECAST, DE=DESCRIPTION, Q=QUIET, E=ERUPTIVE, A=ACTIVE, P=PROTON.

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

AUGUST 1983

PRESTO MESSAGES (THE RAPID REPORT OF MAJOR EVENTS)

01 AUGUST 1983	BOULDER	01/0430Z XRAY EVENT M8/2B S08E34 01/0250Z DURATION 66 MINUTES
01 AUGUST 1983	BOULDER	01/0430Z TENFLARE 410 FLUX UNITS 01/0315Z DURATION 16 MINUTES
01 AUGUST 1983	TOYOKAWA	01/0435Z TENFLARE 530 FLUX UNITS 01/0313Z DURATION 60 MINUTES
01 AUGUST 1983	MOSCOW	01/1400Z SOFLARE 2B S07W50 BEGIN 0320Z END 0420Z
01 AUGUST 1983	BOULDER	01/1440Z TENFLARE 140 FLUX UNITS 01/0809Z DURATION 1 MINUTE
03 AUGUST 1983	MEUDON	03/1515Z MAJOR FLARE IN LARGE COMPLEX SOUTH DISK CENTER 03/1446Z
03 AUGUST 1983	BOULDER	03/1530Z TENFLARE 2433 FLUX UNITS 03/1446Z DURATION 23 MINUTES
04 AUGUST 1983	TOYOKAWA	04/0433Z TENFLARE 320 FLUX UNITS 04/0341Z DURATION 10 MINUTES
04 AUGUST 1983	MOSCOW	04/1200Z SOFLARE XX/2B S08W18 04/0334Z DURATION 34 MINUTES
04 AUGUST 1983	MOSCOW	04/1200Z SOFLARE XX/2B S08W18 04/0906Z DURATION 74 MINUTES
08 AUGUST 1983	BOULDER	08/0312Z TENFLARE 180 FLUX UNITS 08/0250Z IN PROGRESS
08 AUGUST 1983	TOYOKAWA	08/0340Z TENFLARE 260 FLUX UNITS 08/0248Z DURATION 20 MINUTES
08 AUGUST 1983	KAKIOKA	08/0620Z MAGSTORM 07/0827Z
08 AUGUST 1983	MOSCOW	08/1200Z SOFLARE XX/2B S06E76 08/0310Z DURATION 30 MINUTES
08 AUGUST 1983	MOSCOW	08/1200Z SOFLARE XX/1B S06E76 08/0424Z DURATION 15 MINUTES
14 AUGUST 1983	BOULDER	14/1742Z TENFLARE 210 FLUX UNITS 14/1640Z DURATION 5 MINUTES
17 AUGUST 1983	TOYOKAWA	17/0328Z TENFLARE 190 FLUX UNITS 17/0232Z DURATION 10 MINUTES
17 AUGUST 1983	BOULDER	17/1930Z TENFLARE 138 FLUX UNITS 17/1904Z DURATION 6 MINUTES
24 AUGUST 1983	TOYOKAWA	24/0100Z TENFLARE 140 FLUX UNITS 23/2322Z DURATION 8 MINUTES

INTERNATIONAL* (R_I) RELATIVE SUNSPOT NUMBERS

Day	1982 Final Sep	Oct	Nov	Dec	Jan	Feb	1983 Final Mar	Apr	May	1983 Prov Jun	Jul	Aug
01	115	132	80	88	60	103	109	56	114	61	62	131
02	124	164	88	125	65	85	93	70	104	72	59	128
03	146	143	75	132	55	88	86	62	94	73	61	105
04	176	120	100	137	63	94	93	53	85	68	87	103
05	160	109	100	137	82	82	113	36	95	77	80	79
06	141	55	76	174	103	71	88	49	88	85	79	47
07	117	54	98	175	109	72	77	61	92	104	74	60
08	115	55	86	184	126	63	68	55	93	92	82	70
09	94	54	102	152	100	39	74	59	110	100	69	69
10	81	88	109	166	83	26	55	64	121	86	59	63
11	86	87	112	171	90	21	49	69	101	73	68	88
12	78	92	83	194	77	18	32	61	114	66	86	103
13	81	98	98	172	89	11	12	64	132	67	85	101
14	104	88	116	160	92	10	24	64	125	88	88	97
15	129	71	116	166	77	24	44	53	130	92	92	93
16	133	65	100	140	89	17	63	63	99	84	93	80
17	127	54	108	118	102	22	74	63	93	79	96	72
18	107	33	117	102	86	32	88	75	99	78	98	71
19	117	56	122	79	93	33	82	103	88	103	96	54
20	104	70	118	63	81	32	82	90	105	117	101	40
21	102	95	131	87	74	39	87	87	110	117	109	52
22	95	100	141	88	73	33	70	83	104	136	114	50
23	97	128	120	96	59	40	66	97	96	143	95	51
24	109	145	96	100	58	50	60	104	111	122	105	44
25	118	142	75	122	75	67	48	118	106	122	85	52
26	138	135	73	116	77	70	70	106	115	110	58	56
27	133	131	71	126	75	88	72	131	90	92	49	51
28	132	103	74	120	89	98	48	136	68	83	40	55
29	144	101	82	98	99		44	122	88	68	77	63
30	160	96	76	79	101		54	137	75	59	89	59
31		73		69	110		37		60		110	42
Mean	119	95	98	127	84	51	66	80	100	91	82	72

*International sunspot numbers have replaced the Zurich values since January 1981.
The yearly mean sunspot number equaled 115.9 in 1982.

DAILY SOLAR FLUX AT 2800 MHz (10.7 CM) ADJUSTED TO 1 AU

ALGONQUIN RADIO OBSERVATORY, OTTAWA

Day	Sep 82	Oct	Nov	Dec	Jan 83	Feb	Mar	Apr	May	Jun	Jul	Aug
01	184.3*	205.2	159.6	167.8	131.4	162.6	145.4	100.7	142.0	131.3	124.1*	151.1
02	168.7*	209.4*	154.5	166.3	131.4	156.5*	138.7	101.2	145.4	139.0*	125.4	145.4*
03	171.0*	197.0A	147.4	181.6	136.2	145.5	141.0	101.4*	139.4	139.3	131.5	139.4*
04	188.1*	182.3*	143.4	194.5	138.2	156.8	143.7	100.8	132.9	149.2	137.2	136.5
05	179.4	163.9	136.4	195.9*	154.6	154.3*	146.6	98.7	130.8	167.9*	132.1	136.5
06	172.1	151.9	142.1	210.4	161.6*	152.3	139.3	99.5	125.8*	191.4	132.4	142.0
07	176.8	140.2	142.3	244.3	163.3	142.2	132.3	102.2	117.4	179.5	132.7	141.9
08	178.5	136.9	144.8	241.7*	155.9*	133.3	128.1	104.1*	127.0	173.7	127.9	141.0
09	179.2	137.4	147.5A	258.6	150.0	121.9	122.0	106.1	132.2*	159.5*	123.1	142.9
10	165.6	134.8	152.9	273.5*	144.2	113.4	115.1	103.3	143.5*	150.5*	123.1	151.6
11	158.3	137.3	154.1	259.3*	139.3	106.9	103.0	104.4	159.3*	139.2	125.7	151.3
12	152.5*	136.4	164.9	251.1	135.7	99.8	99.5*	107.7	160.4*	134.5	124.7	156.7*
13	151.3	143.9	161.2	239.0	135.1	95.5	95.8	109.1	154.4	128.3	123.5	147.3
14	147.4	140.4	159.5	235.6	137.2	91.7	95.9	111.7	153.5*	126.4*	124.4	141.6*
15	149.0*	134.1	157.0*	221.9	141.0	88.5	100.6*	103.6	145.7	128.7	124.6	135.8*
16	147.3	129.8	163.3	213.2*	140.2	89.7	107.8	105.1	134.0*	128.8*	121.3	132.1
17	147.0*	130.1	158.0	200.5*	138.0	91.9	114.5	113.5	131.7*	130.7	120.0	126.8
18	143.2	132.8	170.2*	186.5	134.8	97.2	117.7	120.7	137.6	130.5	116.4*	122.2
19	142.6*	136.7	182.3	176.8*	127.4	94.6	118.3	125.0	146.8	133.8	119.5	117.7
20	146.9	146.2*	189.2	159.2	120.5	97.3	120.7	127.4	151.8*	136.9	125.1	118.7
21	145.4	161.4	200.9	149.4	116.1	101.6	118.8*	133.3	149.8	144.0	128.1*	114.2
22	146.2	168.2	231.1*	150.1*	113.5	106.2	117.2	139.7	152.0	148.9	138.9	110.8
23	152.6*	177.3*	196.1	157.0*	115.4	112.0	116.2	140.4	143.7	149.8	132.9*	110.8
24	165.4*	190.9	172.9	166.8	114.1	114.3	117.1	142.7	140.5	141.7*	136.3*	108.7
25	170.3	196.8*	164.8	170.6	122.7	120.3	114.2*	145.6	138.8	141.4	136.7*	104.2
26	187.3	193.5	168.8*	168.7	132.6	126.2	114.7*	146.8	132.3	144.1A	128.9*	105.8
27	191.4	187.7*	158.6	166.2	133.6	138.3	109.6	149.6	130.5	137.1	123.1	103.7
28	196.9	181.4	160.3*	157.0	140.6	137.6	104.9	156.4*	133.1	129.4*	127.1	102.8
29	204.6	170.9*	161.4	147.3	148.9		98.9	148.4	139.0	128.9	138.5*	105.7
30	202.4	166.7	164.8	142.5	154.8		100.7	147.2	135.4*	126.8	144.3	104.0
31		165.1		134.4	161.9		98.7		138.0*		153.1*	104.2
Mean	167.1	160.9	163.7	193.2	137.7	119.6	117.3	119.9	140.2	143.0	129.1	127.5

A = Interpolated value.
*Adjusted for burst in progress at time of measurement.
The yearly mean 2800 MHz flux adjusted to 1 astronomical unit equaled 175.1 in 1982.

DAILY SOLAR INDICES

AUGUST 1983

Day	Julian Day	Bartels Cycle Day	Sunspot Numbers R[I]	Sunspot Numbers RA'	Obs Flux Ottawa (2800)	Solar Flux Adjusted to 1 Astronomical Unit: SGMR (15400)	SGMR (8800)	SGMR (4995)	Ottawa (2800)	SGMR (2695)	SGMR (1415)	SGMR (606)	SGMR (410)	SGMR (245)
01	214	4	131	125	146.7	564	278	175	151.1	145	125	84	38	24
02	215	5	128	127	141.2*	554	273	160	145.4*	141	122	65	31	17
03	216	6	105	106	135.3*	563	275	166	139.4*	133	123	77	34	16
04	217	7	103	95	132.7	559	270	161	136.5	131	118	82	33	18
05	218	8	79	61	132.7	556	275	160	136.5	138	122	86	34	20
06	219	9	47	61	138.0	566	276	164	142.0	136	116	76	33	15
07	220	10	60	67	138.0	571	281	172	141.9	136	115	86	36	16
08	221	11	70	68	137.2	579	284	175	141.0	134	114	88	36	17
09	222	12	69	76	139.0	546	274	171	142.9	155	109	76	33	16
10	223	13	63	69	147.6	578	286	173	151.6	143	116	78	35	17
11	224	14	88	94	147.3	566	285	174	151.3	---	121	82	33	16
12	225	15	103	103	152.6*	564	283	170	156.7*	142	129	87	34	17
13	226	16	101	98	143.6	579	278	161	147.3	140	127	86	34	13
14	227	17	97	100	138.0*	587	295	176	141.6*	169	138	81	32	15
15	228	18	93	88	132.4*	569	274	150	135.8*	125	124	82	33	15
16	229	19	80	82	128.9	566	269	154	132.1	---	129	87	34	16
17	230	20	72	64	123.7	566	269	146	126.8	126	122	91	34	14
18	231	21	71	65	119.2	---	---	---	122.2	---	---	--	--	--
19	232	22	54	42	114.9	560	264	138	117.7	116	113	70	34	14
20	233	23	40	41	115.9	560	263	139	118.7	118	111	77	30	15
21	234	24	52	46	111.6	565	269	142	114.2	113	106	76	32	15
22	235	25	50	42	108.3	566	265	140	110.8	103	103	78	34	16
23	236	26	51	39	108.4	---	---	---	110.8	---	---	--	--	--
24	237	27	44	40	106.4	556	266	138	108.7	105	96	79	30	13
25	238	1	52	37	102.0	554	254	134	104.2	100	93	78	32	15
26	239	2	56	48	103.6	546	242	132	105.8	110	100	76	32	14
27	240	3	51	43	101.6	544	251	131	103.7	100	97	74	29	14
28	241	4	55	49	100.8	543	253	130	102.8	98	96	72	29	14
29	242	5	63	49	103.6	527	263	134	105.7	100	96	73	30	15
30	243	6	59	39	102.1	551	258	135	104.0	103	95	77	31	15
31	244	7	42	35	102.3	549	257	134	104.2	102	94	76	33	14
Mean			72	68	124.4	560	270	152	127.5	125	113	79	32	16

*Adjusted for burst in progress at time of measurement.

The observed and the adjusted Ottawa fluxes tabulated above are the "Series C" daily values reported by the Algonquin Radio Observatory, Ottawa, Ontario, Canada. The letter "A" ollowing an entry designates an interpolated flux. Numbers in parentheses in the column headings denote frequencies in MHz.

Equipment problems produced the gaps shown here in the Air Weather Service's Sagamore Hill (SGMR) observations.

The International nd American sunspo' numb~rs shown above are preliminary values.

OBSERVED AND PREDICTED SOLAR ACTIVITY INDICES

AUGUST 1983

	RELATIVE SUNSPOT NUMBERS						2800 MHz RADIO FLUX	
	Zurich or Internat (R_I)		American (R_A)		Derived (R_S)		Adjusted to 1 AU (S_a)	
Date	Monthly Mean	Smoothed	Monthly Mean	Smoothed	Monthly Mean	Smoothed	Monthly Mean	Smoothed
Sep 79	188.4	156	184.0	143	156.5	144	202.3	191
Oct	186.2	158	178.2	144	171.7	145	216.4	192
Nov	183.3	162	176.5	149	182.9	149	226.8	196
Dec	176.3	164	157.6	152	151.0	152	197.2	199
Jan 80	159.6	164	145.3	153	153.6	154	199.6	200
Feb	155.0	163	133.9	154	148.7	155	195.1	200
Mar	126.2	161	107.9	153	117.8	153	166.5	200
Apr	164.1	159	138.5	151	164.0	152	209.3	198
May	179.7	156	172.3	149	185.4	151	229.1	197
Jun	157.3	155	153.6	149	153.2	151	199.3	198
Jul	136.3	153	136.0	144	144.1	151	190.8	197
Aug	135.4	150	133.0	144	121.9	150	170.3	196
Sep	155.0	150	150.0	146	138.8	152	185.9	198
Oct	164.7	150	160.8	149	157.1	154	202.9	200
Nov	147.9	148	149.9	149	168.5	153	213.4	199
Dec	174.4	143	167.5	145	174.3	150	218.8	196
Jan 81	114.0	140	115.4	144	120.5	149	169.0	195
Feb	141.3	142	143.7	146	153.5	152	199.5	198
Mar	135.5	143	149.2	149	157.5	156	203.2	202
Apr	156.4	143	169.2	149	180.7	158	224.7	204
May	127.5	143	141.3	149	152.8	159	198.9	204
Jun	90.9	142	99.0	147	112.9	158	161.9	203
Jul	143.8	140	154.3	146	152.1	157	198.2	203
Aug	158.7	141	170.4	147	182.1	158	226.0	203
Sep	167.3	143	174.5	148	177.7	158	221.9	204
Oct	162.4	142	157.0	146	178.6	156	222.8	202
Nov	137.5	139	138.8	142	157.6	151	203.3	197
Dec	150.1	138	145.0	140	155.5	149	201.4	195
Jan 82	111.1	137	110.4	139	124.2	148	173.4	195
Feb	163.6	133	161.0	134	163.6	144	208.9	191
Mar	153.8	129	155.5	130	163.0	139	208.3	186
Apr	122.0	124	121.9	124	113.9	134	162.9	182
May	82.2	120	82.6	120	97.7	129	147.9	177
Jun	110.4	117	113.5	118	129.6	127	177.4	175
Jul	106.1	115	113.3	117	116.0	125	164.8	174
Aug	107.6	109	110.5	111	123.9	120	172.1	168
Sep	118.8	101	117.8	103	118.5	112	167.1	161
Oct	94.7	96*	90.1	97	111.8	106	160.9	155
Nov	98.1	95*	93.2	95	114.8	103	163.7	153
Dec	127.0	94*	145.0	95	146.7	101	193.2	151
Jan 83	84.3	93*	82.8	93	86.7	98	137.7	148
Feb	51.0	90*	53.4	**90**	67.2	94	119.6	145
Mar	66.5	**89(4)***	60.5	**88**	64.7	**93**	117.3	---
Apr	79.7†	**86(7)***	74.5	**86**	67.5	**90**	119.9	---
May	100.2†	**83(12)***	97.7	**82**	86.1	**86**	137.1	---
Jun	90.6†	**80(14)***	93.1	**79**	92.4	**83**	143.0	---
Jul	82.1†	**78(16)***	82.2	**77**	77.4	**82**	129.1	---
Aug	71.9†	**77(19)***	---	**76**	75.7	**81**	127.5	---
Sep	---	**77(21)***	---	**75**	---	**80**	---	---
Oct	---	**78(22)***	---	**76**	---	**81**	---	---
Nov	---	**78(22)***	---	**77**	---	**82**	---	---
Dec	---	**77(23)***	---	**76**	---	**81**	---	---
Jan 84	---	**76(23)***	---	**75**	---	**80**	---	---
Feb	---	**73(23)***	---	**72**	---	**76**	---	---

*An asterisk marks either a value of the observed 12-month running mean or of a predicted 12-month average that is based in part on preliminary observations.

Boldface entries indicate predicted values and parentheses enclose the absolute value of the 90% confidence limits. All tabulated entries of the American sunspot number are final values. The two columns headed "Derived" represent a sunspot number computed from a linear regression equation between the 2800 MHz solar flux (adjusted to 1 astronomical unit) and the Zurich sunspot number.

†International numbers replaced the Zurich values in January 1981.

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS FOR CYCLE 21

AUGUST 1983

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1976	15	13	12	13	13	12	13	14	14	13	14	15
1977	17	18	20	22	24	26	29	33	39	46	52	57
1978	61	65	70	77	83	89	97	104	108	111	113	118
1979	124	131	137	141	147	153	155	155	156	158	162	165*
1980	164	163	161	159	156	155	153	150	150	150	148	143
1981	140	142	143	143	143	142	140	141	143	142	139	138
1982	137	133	129	124	119	117	115	109	101	96	95	95
1983	93	90	89	86	83	80	78	77	77	78	78	77
			(4)	(7)	(12)	(14)	(16)	(19)	(21)	(22)	(22)	(23)
1984	76	73	68	64	63	63	62	60	58	55	52	49
	(23)	(23)	(24)	(25)	(26)	(27)	(28)	(28)	(28)	(27)	(27)	(26)
1985	48	48	47	47	46	43	41	40	39	39	38	38
	(26)	(25)	(24)	(24)	(24)	(23)	(22)	(21)	(20)	(21)	(22)	(22)
1986	37	35	33	31	29	26	23	21	20	20	19	18
	(23)	(23)	(23)	(23)	(22)	(22)	(21)	(20)	(19)	(18)	(16)	(15)

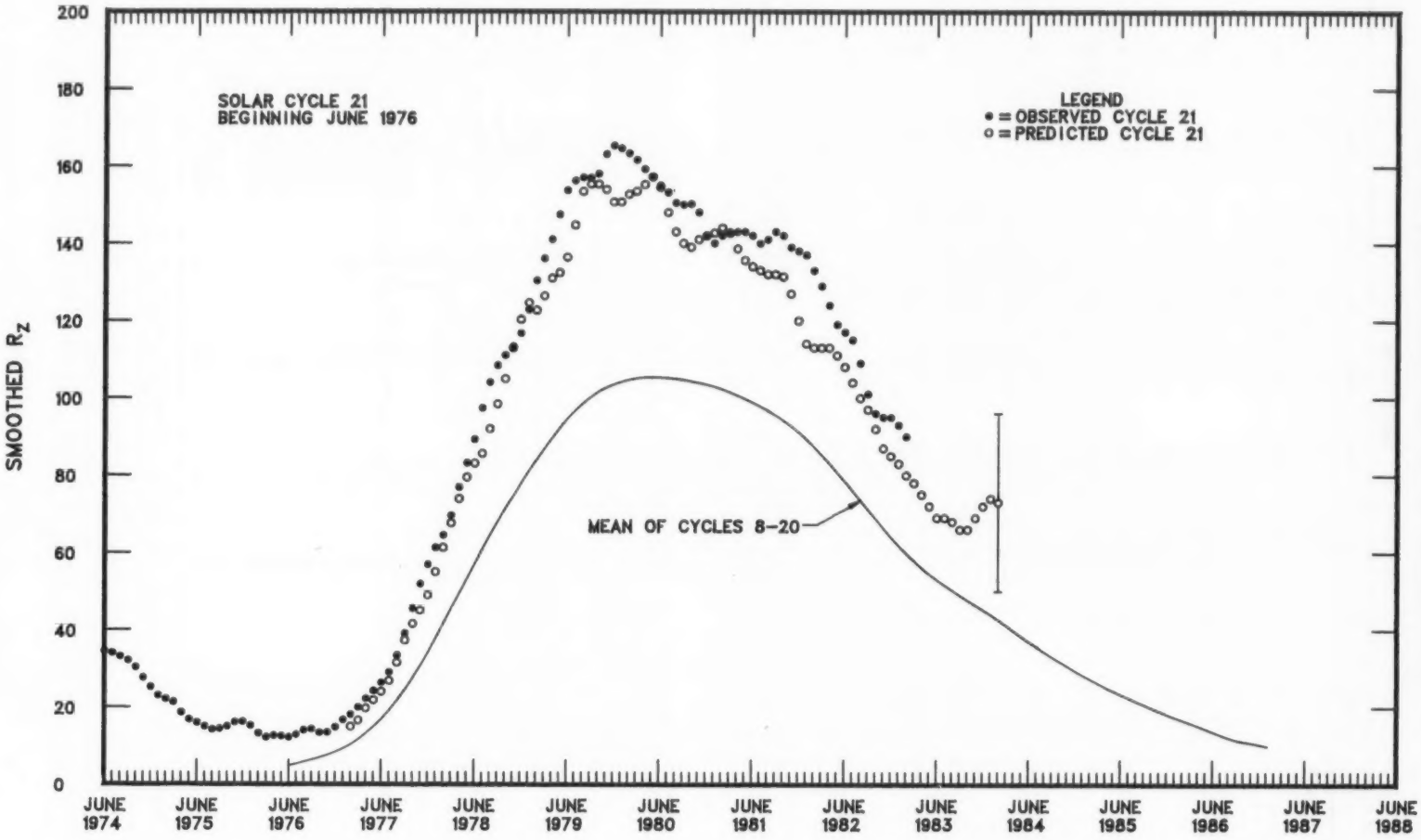
For the current solar cycle, this table gives observed smoothed sunspot numbers up to the one calculated from the most recently measured monthly mean. These smoothed observed values are based on final monthly mean Zurich numbers through 1980, on final international numbers through March 1983, and on provisional international numbers thereafter. Some table entries after the June 1976 value will change slightly, when we incorporate final data for 1983.

The entries with numbers in parentheses below them denote predictions by the McNish-Lincoln method. (See page 9 in the February 1983 edition of the "Solar-Geophysical Data" supplement.) By adding to and subtracting from each prediction the number in parentheses, one generates the 90% confidence interval. Consider, for example, the February 1984 prediction tabulated above. There exists a 90% chance that in February 1984 the actual smoothed sunspot number will fall somewhere between 50 and 96.

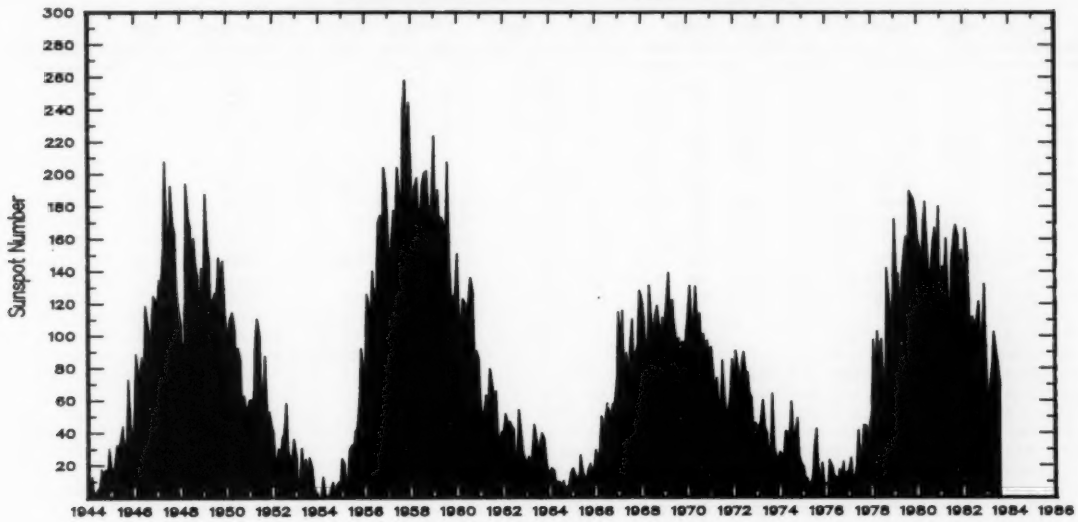
THE MCNISH-LINCOLN PREDICTION METHOD GENERATES USEFUL ESTIMATES OF SMOOTHED SUNSPOT NUMBERS FOR NO MORE THAN 12 MONTHS AHEAD. Beyond a year the predictions regress rapidly toward the mean of all 13 cycles of data used in the computation. Furthermore, the method is very sensitive to the date defined as the beginning of the current sunspot cycle, that is, to the date of the most recent sunspot minimum. In "Solar-Geophysical Data," issues 390-401, we based the current cycle predictions on March 1976 as the end of cycle 20 and the onset of the new cycle 21. Later studies, including one published by M. Waldmeier, showed that June 1976 was more appropriately the minimum epoch. We therefore generated this table using the June 1976 date.

*MAXIMUM OF SUNSPOT CYCLE 21. The maximum smoothed sunspot number occurred in December 1979.

OBSERVED AND ONE-YEAR-AHEAD PREDICTED SMOOTHED SUNSPOT NUMBERS



MONTHLY MEAN SUNSPOT NUMBERS
January 1944 – August 1983



MONTHLY MEAN SUNSPOT NUMBERS

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1944	3.7	0.5	11.0	0.3	2.5	5.0	5.0	16.7	14.3	16.9	10.8	28.4
1945	18.5	12.7	21.5	32.0	30.6	36.2	42.6	25.9	34.9	68.8	46.0	27.4
1946	47.6	86.2	76.6	75.7	84.9	73.5	116.2	107.2	94.4	102.3	123.8	121.7
1947	115.7	133.4	129.8	149.8	201.3	163.9	157.9	188.8	169.4	163.6	128.0	116.5
1948	108.5	86.1	94.8	189.7	174.0	167.8	142.2	157.9	143.3	136.3	95.8	138.0
1949	119.1	182.3	157.5	147.0	106.2	121.7	125.8	123.8	145.3	131.6	143.5	117.6
1950	101.6	94.8	109.7	113.4	106.2	83.6	91.0	85.2	51.3	61.4	54.8	54.1
1951	59.9	59.9	55.9	92.9	108.5	100.6	61.5	61.0	83.1	51.6	52.4	45.8
1952	40.7	22.7	22.0	29.1	23.4	36.4	39.3	54.9	28.2	23.8	22.1	34.3
1953	26.5	3.9	10.0	27.8	12.5	21.8	8.6	23.5	19.3	8.2	1.6	2.5
1954	0.2	0.5	10.9	1.8	0.8	0.2	4.8	8.4	1.5	7.0	9.2	7.6
1955	23.1	20.8	4.9	11.3	28.9	31.7	26.7	40.7	42.7	58.5	89.2	76.9
1956	73.6	124.0	118.4	110.7	136.6	116.6	129.1	169.6	173.2	155.3	201.3	192.1
1957	165.0	130.2	157.4	175.2	164.6	200.7	187.2	158.0	235.8	253.8	210.9	239.4
1958	202.5	164.9	190.7	196.0	175.3	171.5	191.4	200.2	201.2	181.5	152.3	187.6
1959	217.4	143.1	185.7	163.3	172.0	168.7	149.6	199.6	145.2	111.4	124.0	125.0
1960	146.3	106.0	102.2	122.0	119.6	110.2	121.7	134.1	127.2	82.8	89.6	85.6
1961	57.9	46.1	53.0	61.4	51.0	77.4	70.2	55.9	63.6	37.7	32.6	40.0
1962	38.7	50.3	45.6	46.4	43.7	42.0	21.8	21.8	51.3	39.5	26.9	23.2
1963	19.8	24.4	17.1	29.3	43.0	35.9	19.6	33.2	38.8	35.3	23.4	14.9
1964	15.3	17.7	16.5	8.6	9.5	9.1	3.1	9.3	4.7	6.1	7.4	15.1
1965	17.5	14.2	11.7	6.8	24.1	15.9	11.9	8.9	16.8	20.1	15.8	17.0
1966	28.2	24.4	25.3	48.7	45.3	47.7	56.7	51.2	50.2	57.2	57.2	70.4
1967	110.9	93.6	111.8	69.5	86.5	67.3	91.5	107.2	76.8	88.2	94.3	126.4
1968	121.8	111.9	92.2	81.2	127.2	110.3	96.1	109.3	117.2	107.7	86.0	109.8
1969	104.4	120.5	135.8	106.8	120.0	106.0	96.8	98.0	91.3	95.7	93.5	97.9
1970	111.5	127.8	102.9	109.5	127.5	106.8	112.5	93.0	99.5	86.6	95.2	83.5
1971	91.3	79.0	60.7	71.8	57.5	49.8	81.0	61.4	50.2	51.7	63.2	82.2
1972	61.5	88.4	80.1	63.2	80.5	88.0	76.5	76.8	64.0	61.3	41.6	45.3
1973	43.4	42.9	46.0	57.7	42.4	39.5	23.1	25.6	59.3	30.7	23.9	23.3
1974	27.6	26.0	21.3	40.3	39.5	36.0	55.8	33.6	40.2	47.1	25.0	20.5
1975	18.9	11.5	11.5	5.1	9.0	11.4	28.2	39.7	13.9	9.1	19.4	7.8
1976	8.1	4.3	21.9	18.8	12.4	12.2	1.9	16.4	13.5	20.6	5.2	15.3
1977	16.4	23.1	8.7	12.9	18.6	38.5	21.4	30.1	44.0	43.8	29.1	43.2
1978	51.9	93.6	76.5	99.7	82.7	95.1	70.4	58.1	138.2	125.1	97.9	122.7
1979	166.6	137.5	138.0	101.5	134.4	149.5	159.4	142.2	188.4	186.2	183.3	176.3
1980	159.6	155.0	126.2	164.1	179.9	157.3	136.3	135.4	155.0	164.7	147.9	174.4
1981	114.0	141.3	135.5	156.4	127.5	90.9	143.8	158.7	167.3	162.4	137.5	150.1
1982	111.2	163.6	153.8	122.0	82.2	110.4	106.1	107.6	118.8	94.7	98.1	127.0
1983	84.3	51.0	66.5	79.7*	100.2*	90.6*	82.1*	71.9*				

*Provisional

H - ALPHA SOLAR FLARES

AUGUST 1983

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
LEAR	01	0033	0035	0050	S07	E18	4263	08	2.4	17	SF			2	C		40		
LEAR	01	0116	0117	0136	S07	E28	4263	08	3.2	20	SF			3	C		80		
LEAR	01	0128	0129	0134	S14	W64	4264	07	27.2	6	SF			3	C		13		
LEAR	01	0202	0234	0251	S06	E18	4263	08	2.4	49	SN			3	C		157		
PALE	01	0231	0235	0240	S06	E18	4263	08	2.5	9	SN			3	C		88		
PURP	01	0239E	0239	0239D	S09	E18		08	2.5	9D	SB				V	0239	40	.4	E
LEAR	01	0253	0323	0344	S15	E39	4267	08	4.1	51	SF			3	C		93		
PALE	01	0255	0259	0309	S08	E35	4263	08	3.7	14	SF			3	C		30		
LEAR	01	0256	0329	0507	S08	E34	4263	08	3.7	131	2B			3	C		788		ZU
PURP	01	0314	0404	0511D	S10	E34		08	3.7	117D	2B				C	0404	550	7.2	
PALE	01	0317	0327	0423D	S11	E32	4263	08	3.5	66D	2B			3	C		641		K
PALE	01	0317	0332	0423D	S11	E32	4263	08	3.5	66D	2B			3	C		768		UEK
PEKG	01	0330E	0330	0405	S10	E33		08	3.6	35D	2B				P	0330	484	6.2	U
PURP	01	0416	0419	0428	S09	E17		08	2.5	12	SB				C	0419	40	.4	E
PURP	01	0548E	0548	0550	S09	E17		08	2.5	2D	SN				P	0548	40	.4	E
LEAR	01	0854	0854	0901D	S06	E13	4263	08	2.3	7D	SF			3	C		52		
HOLL	01	1604	1612	1705	N14	W60	4269	07	28.1	61	SF			3	C		41		K
HOLL	01	1604	1625	1705	N14	W60	4269	07	28.1	61	SF			3	C		33		FK
HOLL	01	1741	1745U	1747	N06	E91		08	8.5	6	SF			3	C		9		
HOLL	01	1748	1748	1756	S10	E21	4263	08	3.3	8	SN			3	C		52		F
PALE	01	1809	1809	1816	N13	W61	4269	07	28.2	7	SF			3	C		21		
HOLL	01	1937	1955	2022	S16	E25	4263	08	3.7	45	SN			3	C		75		F
PALE	01	1953E	1954U	2012D	S16	E25	4267	08	3.7	19D	SN			3	C		39		F
HOLL	01	1955	1957	2012	S05	E07	4263	08	2.4	17	SF			3	C		50		
PALE	01	1956E	1957U	2008	S06	E08	4263	08	2.4	12D	SF			3	C		28		
PALE	01	2339E	2343U	2359	S06	E06	4263	08	2.4	20D	SN			3	C		67		F
PALE	02	0037	0039	0047	N12	W64	4269	07	28.2	10	SF			3	C		34		
LEAR	02	0652	0652	0714	N13	W67	4269	07	28.2	22	SF			3	C		20		
PURP	02	0813E	0814	0830	S07	E01		08	2.4	17D	SN				P	0814	70	.7	E
LEAR	02	0830	0835	0847	S18	E17	4267	08	3.6	17	SF			3	C		46		
PURP	02	0843E	0844	0844D	S18	E17		08	3.7	1D	SF				P	0844	49	.6	
PALE	02	1702	1704	1718	S06	W03	4263	08	2.5	16	SF			3	C		38		F
HOLL	02	1702E	1704U	1728	S06	W04	4263	08	2.4	26D	SN			2	C		113		F
PALE	02	1832	1832	1841	S07	W04	4263	08	2.5	9	SF			3	C		37		F
PALE	02	1854	1900	1908	S06	W05	4263	08	2.4	14	SN			3	C		90		F
HOLL	02	2149	2151	2153	S04	W02	4263	08	2.8	4	SN			3	C		22		
HOLL	02	2347E	2347U	0002D	S06	W08	4263	08	2.4	15D	1B			4	C		241		E
BUCA	03	0650	0655	0710	S06	W11		08	2.5	20	SF				C	0710	107	1.2	
BUCA	03	0655	0709		S06	W12		08	2.4		1N								U
BUCA	03	0704	0706		S21	W50		07	30.5		SN								D
LEAR	03	0748	0756	0808	S06	W11	4263	08	2.5	20	SN			3	C		101		F
LEAR	03	0800	0800	0813	S22	W52	4262	07	30.3	13	SN			3	C		18		
PURP	03	0907E	0911	0914	S07	W09		08	2.7	7D	SN				P	0911	13	.1	E
RAMY	03	1500E	1503	1618	S23	E03	4267	08	3.9	78D	2B			3	C		572		FE
RAMY	03	1500E	1503	1712	S11	W05	4263	08	3.2	132D	1B			3	C		471		ZF
HOLL	03	2112	2225	2246	S21	W60	4262	07	30.3	94	SF			3	C		22		
HOLL	03	2127	2131	2151	S06	W20	4263	08	2.4	24	SB			3	C		198		E
HOLL	03	2207	2208	2212	S05	W14	4263	08	2.9	5	SN			3	C		29		
LEAR	04	0224	0231	0242	S12	W07	4263	08	3.6	18	SN			3	C		33		F
LEAR	04	0240	0242	0248	S22	W61	4262	07	30.4	8	SF			3	C		37		
LEAR	04	0332	0337	0408	S07	W24	4263	08	2.3	36	SN			3	C		44		K
LEAR	04	0332	0342	0408	S07	W24	4263	08	2.3	36	1B			3	C		381		HK
LEAR	04	0524	0526	0537	S23	W64	4262	07	30.3	13	SN			3	C		56		F
BUCA	04	0600	0607		S21	W63		07	30.4		SN								D
MONT	04	0844	0907	0947D	S09	W16		08	3.2	63D	1N				C	0907	250		
PURP	04	0850E	0904	0904D	S08	W17		08	3.1	14D	SN				C	0904	69	.8	
RAMY	04	1056	1120	1125	S07	W19	4263	08	3.0	29	SF			3	C		21		
RAMY	04	1207	1207	1214	S22	W69	4262	07	30.2	7	SF			3	C		12		
HOLL	04	1345	1345	1355	N05	E42	4272	08	7.7	10	SF			3	C		25		
RAMY	04	1638	1640	1648	S09	W27	4263	08	2.7	10	SF			3	C		29		
RAMY	04	1856	1858	1903	S24	W72	4262	07	30.2	7	SF			3	C		26		
RAMY	04	1924	1946	2043	S09	W15	4263	08	3.7	79	SF			3	C		147		
PALE	04	1927	1949U	1950D	S08	W15	4263	08	3.7	23D	SF			3	C		69		F
RAMY	04	1954	1955	2006	S24	W73	4262	07	30.2	12	SN			3	C		29		
RAMY	04	2146	2201	2207D	S12	W22	4263	08	3.2	21D	SF			3	C		54		
LEAR	05	0337	0338	0352	S09	W33	4263	08	2.7	15	SB			3	C		78		FE
RAMY	05	1203	1207	1220	S11	W24	4263	08	3.7	17	SF			3	C		61		

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
RAMY	05	1244	1250	1248D	S10	W23	4263	08	3.8	4D	2B			3	C		509		FE
RAMY	05	1250	1254	1355	S11	W18	4271	08	4.2	65	SB			3	C		60		
HOLL	05	1317E	1317U	1355	S07	W25	4263	08	3.7	38D	SB			1	C		100		U
LEAR	06	0121	0125	0153	S10	W37	4263	08	3.3	32	SB			3	C		94		F
HOLL	06	0127E	0127U	0139D	S09	W37	4263	08	3.3	12D	SN			1	C		75		F
LEAR	06	0246	0251	0255	S22	W30	4267	08	3.8	9	SF			3	C		19		
LEAR	06	0302	0314	0320	S22	W31	4267	08	3.7	18	SF			3	C		35		
LEAR	06	0631	0636	0651	N05	E76		08	12.0	20	SF			3	C		15		
LEAR	06	0839	0843	0849	S08	W49	4263	08	2.7	10	SF			3	C		40		
MONT	06	0906	0908	0912	S14	W38		08	3.5	6	SF				C	0908	50		D
LEAR	06	0908	0909	0933D	S14	W37	4263	08	3.6	25D	SB			3	C		67		K
LEAR	06	0908	0932	0933D	S14	W37	4263	08	3.6	25D	SN			3	C		52		K
RAMY	06	1149E	1155	1200	S09	W38	4263	08	3.6	11D	SF			3	C		148		
RAMY	06	1210	1214	1225	S12	W39	4263	08	3.6	15	SF			3	C		59		
RAMY	06	1409	1453	1453D	S10	W38	4263	08	3.7	44D	SF			3	C		280		
HOLL	06	1432	1433	1446	N04	E72		08	12.0	14	SF			3	C		7		
HOLL	06	1457	1514	1529	S11	W45	4263	08	3.2	32	SF			3	C		38		
HOLL	06	1652	1652	1704	S12	W38	4263	08	3.8	12	SF			3	C		28		
HOLL	06	1910E	1910U	1921D	S08	W51	4263	08	3.0	11D	SN			2	C		20		F
LEAR	07	0351	0356	0404	S07	W61	4263	08	2.6	13	SB			3	C		125		H
PEKG	07	0358	0401	0420	S06	W62		08	2.5	22	SF				P	0401	42	.9	EHLR
LEAR	07	0410	0416	0423	S07	W61	4263	08	2.6	13	SN			3	C		52		H
LEAR	07	0424	0426	0432	S10	W53	4263	08	3.2	8	SN			3	C		43		F
RAMY	07	1304	1306	1336	S09	E81		08	13.6	32	SN			3	C		32		
RAMY	07	1323	1325	1342	S09	W45	4263	08	4.2	19	SF			3	C		51		
RAMY	07	1352	1353	1402	S11	W59	4263	08	3.1	10	SF			3	C		29		
HOLL	07	1354E	1354U	1417	S10	W58	4263	08	3.2	23D	SN			2	C		31		
RAMY	07	1442	1449	1503	S08	W68	4263	08	2.5	21	SF			3	C		54		
PALE	07	2153	2201U	2229	S09	W58	4263	08	3.6	36	1N			3	C		161		UF
HOLL	07	2203E	2203U	2213D	S07	W58	4263	08	3.6	10D	1N			3	C		203		UF
PALE	07	2208	2208	2234	S08	E76	4278	08	13.6	26	SF			3	C		14		
LEAR	08	0103	0107	0138	S19	W59	4267	08	3.5	35	SF			3	C		68		F
PURP	08	0112E	0320U	0328D	S06	E80		08	14.0	136D	1F				C	0320	55		
YUNN	08	0230	0231	0236	S07	W71		08	2.8	6	SF				C		46		
YUNN	08	0256E	0303	0328	S07	E75		08	13.7	32D	1B				P		154		E
LEAR	08	0309E	0309U	0352	S07	E71	4278	08	13.4	43D	1B			2	C		228		F
YUNN	08	0718	0726	0747	S07	E74		08	13.8	29	SN				C		15		E
LEAR	08	0720	0720	0724	S12	W61	4263	08	3.7	4	SF			3	C		18		
YUNN	08	0911E	0913	0931D	N05	E46		08	11.8	20D	SN				P		46	.7	EG
RAMY	08	1120	1121	1131	S08	W80	4263	08	2.5	11	SF			3	C		24		
RAMY	08	1307	1311	1330	S13	W65	4263	08	3.6	23	SF			3	C		14		
HOLL	08	2256	2300	2312D	S08	E69	4278	08	14.1	16D	SF			3	C		11		
LEAR	08	2349	0004	0112	S07	E65	4278	08	13.9	83	SN			3	C		86		K
LEAR	08	2349	0042	0112	S07	E65	4278	08	13.9	83	1N			3	C		145		K
HOLL	09	0030E	0042	0050D	S02	E63	4278	08	13.7	20D	SN			3	C		100		
LEAR	09	0149	0151	0157	S09	W71	4263	08	3.7	8	SF			3	C		29		
LEAR	09	0345	0348	0352	S11	E63	4278	08	13.9	7	SN			3	C		42		F
LEAR	09	0431	0432	0438	S10	E62	4278	08	13.8	7	SN			3	C		74		
LEAR	09	0826	0831	0914	S07	E59	4278	08	13.8	48	SN			3	C		45		
HOLL	09	1609	1609	1616	S09	E54	4278	08	13.7	7	SF			3	C		23		
RAMY	09	1627	1632	1638	S10	W89	4263	08	3.0	11	SF			3	C		79		
HOLL	09	1627	1630	1641	S08	W83	4263	08	3.5	14	SN			4	C		56		
PALE	09	2051	2053	2057	S08	E52	4278	08	13.8	6	SF			3	C		18		F
LEAR	10	0045	0047	0100	S09	E54	4278	08	14.1	15	SN			3	C		24		
LEAR	10	0305		0330	S12	W87	4263	08	3.6	25	SN			3	C				
LEAR	10	0812	0814	0822	S06	E44	4278	08	13.6	10	SF			3	C		40		F
RAMY	10	1123	1223	1242	S08	E47	4278	08	14.0	79	SN			3	C		129		
RAMY	10	1126	1127	1145	S09	E46	4279	08	13.9	19	SF			3	C		49		
RAMY	10	1157	1159	1223	N01	E45	4280	08	13.9	26	SF			3	C		42		
RAMY	10	1545	1552	1600	S06	E52	4278	08	14.5	15	SF			3	C		50		
RAMY	10	1610	1612	1616	S01	E42	4280	08	13.8	6	SN			3	C		44		
HOLL	10	1949	1949	1959	S05	E37	4278	08	13.6	10	SF			3	C		25		
HOLL	10	2013	2015	2022	S05	E37	4278	08	13.6	9	SF			3	C		32		
HOLL	10	2156	2157	2201	S04	E74	4281	08	16.4	5	SF			3	C		15		
HOLL	10	2202	2205	2231	S05	E74	4281	08	16.5	29	SF			3	C		17		
HOLL	10	2239	2239	2248	S08	E41	4278	08	14.0	9	SF			3	C		48		F

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HOLL	10	2253	2254U	2255D	S07	E39	4278	08	13.9	2D	SN		3	C		21		F
LEAR	11	0131	0135	0153	S08	E45	4278	08	14.4	22	SN		3	C		46		F
LEAR	11	0308	0309	0329	S09	E36	4278	08	13.8	21	SN		3	C		73		
PALE	11	0308	0308	0327	S04	E33	4278	08	13.6	19	SF		3	C		29		
LEAR	11	0444	0444	0458	S10	E32	4279	08	13.6	14	SF		3	C		23		
LEAR	11	0724	0724	0732	S06	E69	4281	08	16.5	8	SF		3	C		14		
RAMY	11	1619	1621	1733D	S06	E66	4281	08	16.6	74D	SF		3	C		40		
RAMY	11	1911	1915	1915D	S09	E27	4279	08	13.8	4D	SB		3	C		67		
RAMY	11	1911	1915	1935	S11	E18	4279	08	13.2	24	SB		3	C		78		
HOLL	11	1911	1915	1923	S10	E18	4279	08	13.2	12	SB		3	C		68		F
RAMY	11	2015	2016	2026	S19	E69	4283	08	17.1	11	SF		3	C		59		
HOLL	11	2016	2016	2027D	S20	E67	4283	08	17.0	11D	SF		2	C		74		
LEAR	12	0024	0026	0059	S13	E20	4279	08	13.5	35	1B		3	C		199		
LEAR	12	0415	0419	0440	S11	E12	4278	08	13.1	25	SN		3	C		58		HK
LEAR	12	0415	0424	0440	S11	E12	4278	08	13.1	25	SN		3	C		49		K
LEAR	12	0446	0446	0454	S10	E15	4278	08	13.3	8	SN		3	C		36		F
LEAR	12	0452	0531	0552	S02	E20	4280	08	13.7	60	SF		3	C		23		
LEAR	12	0548	0550	0623	S10	E14	4278	08	13.3	35	SB		3	C		137		FK
LEAR	12	0548	0558	0623	S10	E14	4278	08	13.3	35	SB		3	C		137		K
LEAR	12	0627	0628	0639	S10	E10	4278	08	13.0	12	SN		3	C		46		F
LEAR	12	0710	0714	0727	S11	E10	4278	08	13.1	17	SF		3	C		49		F
BUCA	12	0714	0719	0745	S09	E15		08	13.4	31	SF			C	0719	161	1.9	E
LEAR	12	0721	0722	0810	S08	E20	4279	08	13.8	49	SF		3	C		51		F
LEAR	12	0729	0733	0753	S10	E10	4278	08	13.1	24	SF		3	C		23		K
LEAR	12	0729	0747	0753	S10	E10	4278	08	13.1	24	SN		3	C		39		FK
LEAR	12	0759	0802	0824	S11	E10	4278	08	13.1	25	SB		3	C		117		FH
BUCA	12	0759	0806		S11	E09		08	13.0		SN							E
BUCA	12	0800	0802	0821	S10	E10		08	13.1	21	1F			C	0802	258	2.8	
PURP	12	0813E	0813	0839	S12	E12		08	13.2	26D	SB			C	0813	85	1.0	
LEAR	12	0841	0853	0900D	S10	E12	4278	08	13.3	19D	SB		3	C		191		F
LEAR	12	0844	0844	0852	S22	E60	4283	08	17.0	8	SF		3	C		21		
YUNN	12	0852E	0852U	0856D	S10	E10		08	13.1	4D	1B			P	0852	338	3.7	E
RAMY	12	1235	1246	1305	S11	E08	4279	08	13.1	30	1B		3	C		261		FE
HOLL	12	1242E	1242U	1304	S10	E06	4279	08	13.0	22D	SB		2	C		165		FH
RAMY	12	1335	1336	1348	S07	E18	4279	08	13.9	13	SN		3	C		77		
HOLL	12	1335	1336	1342	S10	E06	4279	08	13.0	7	SN		3	C		43		F
RAMY	12	1555	1600	1602	S10	E05	4279	08	13.0	7	SF		3	C		46		
HOLL	12	1555	1556	1559	S10	E04	4278	08	13.0	4	SF		3	C		23		
RAMY	12	1607	1607	1611	N00	E16	4280	08	13.9	4	SF		3	C		26		
HOLL	12	1757	1802	1821	S11	E05	4279	08	13.1	24	SB		3	C		157		ZFK
HOLL	12	1757	1811	1821	S11	E05	4279	08	13.1	24	SN		3	C		113		K
HOLL	12	1835	1839	1841	S08	E04	4279	08	13.1	6	SB		3	C		65		
HOLL	12	1851	1853	1859	S09	E20	4278	08	14.3	8	SF		3	C		44		
HOLL	12	1853	1853	1857	S09	E03	4279	08	13.0	4	SF		3	C		34		F
HOLL	12	1903	1908	1925	S06	E15	4278	08	13.9	22	SN		3	C		88		F
HOLL	12	1914	1914	1915	S09	E03	4279	08	13.0	1	SF		3	C		24		F
HOLL	12	2007	2009	2034	S11	E03	4279	08	13.1	27	SN		3	C		61		
PALE	12	2014	2014	2024	S10	E05	4279	08	13.2	10	SF		3	C		25		F
PALE	12	2302	2303	2310	S08	E02	4279	08	13.1	8	SN		3	C		67		
HOLL	12	2302	2304	2328	S07	E01	4279	08	13.0	26	SB		3	C		88		
PALE	13	0019	0020	0056	S09	E07	4278	08	13.5	37	SN		3	C		100		F
HOLL	13	0019	0020	0049	S10	E05	4279	08	13.4	30	SB		2	C		91		F
LEAR	13	0020	0020	0040	S10	E05	4278	08	13.4	20	SB		3	C		55		
LEAR	13	0154	0201	0251	S06	E46	4281	08	16.5	57	SN		3	C		71		K
LEAR	13	0154	0208	0251	S06	E46	4281	08	16.5	57	SF		3	C		51		K
PALE	13	0156	0201	0220D	S04	E47	4281	08	16.6	24D	SF		3	C		36		
LEAR	13	0224	0231	0418	S10	E00	4279	08	13.1	114	SN		3	C		104		K
LEAR	13	0224	0336	0418	S10	E00	4279	08	13.1	114	1N		3	C		327		FK
LEAR	13	0235	0235	0253	S16	E50	4283	08	16.9	18	SF		3	C		21		
YUNN	13	0331	0335	0354	S10	W00		08	13.1	23	1N			P		384	4.1	F
LEAR	13	0422	0435U	0458	S10	E04	4279	08	13.5	36	1B		3	C		145		F
BUCA	13	0700E	0720		S09	E00		08	13.3	D	SF							BE
LEAR	13	0701	0727	0734	S10	E06	4278	08	13.7	33	SN		3	C		81		
LEAR	13	0703	0714	0721	S09	W00	4279	08	13.3	18	SN		3	C		77		
LEAR	13	0735	0837	0909D	S12	E05	4278	08	13.7	94D	SN		3	C		88		F
YUNN	13	0801	0808	0818D	S12	E01		08	13.4	17D	2F			P		584	6.3	F
MONT	13	0801	0803	0809	S14	E06		08	13.8	8	SN			C	0803	70		
LEAR	13	0833	0845	0848	S10	W03	4279	08	13.1	15	SF		3	C		21		

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RAMY	13	1319	1323	1402D	S07	E03	4278	08	13.8	43D	SN		3	C		112		
HOLL	13	1324E	1324U	1344	S06	E00	4279	08	13.6	20D	SN		3	C		23		
HOLL	13	1324E	1324U	1346	S08	E04	4278	08	13.9	22D	SN		3	C		85		
HOLL	13	1631	1631	1636	S08	E07	4278	08	14.2	5	SF		3	C		24		
HOLL	13	1800	1813	1920	S08	E00	4278	08	13.8	80	2B		3	C		768		FHK
HOLL	13	1800	1904	1920	S08	E00	4278	08	13.8	80	SF		3	C		170		K
HOLL	13	1804	1812	1816D	S07	W02	4279	08	13.6	12D	1B		3	C		403		
PALE	13	1807	1812	1912	S09	E00	4278	08	13.8	65	2B		3	C		1099		UE
HOLL	13	2112	2112	2117	S10	W13	4279	08	12.9	5	SF		3	C		45		
YUNN	14	0029E	0030	0046	S11	W14		08	13.0	17D	1N			P		231	2.6	ET
PURP	14	0033E	0033	0042D	S13	W13		08	13.0	9D	SN			C	0033	62	.7	
LEAR	14	0053	0059	0104	S12	W15	4279	08	12.9	11	SN		3	C		42		
LEAR	14	0205		0215D	S08	W07	4279	08	13.6	10D	SF		3	C		33		
BUCA	14	0724	0730		S09	W09		08	13.6		1N							U
YUNN	14	0725	0738U	0754	S08	W10		08	13.6	29	SN			P	0738	108	1.2	ET
YUNN	14	0806	0814	0840	S07	W11		08	13.5	34	SN			C		77	.8	T
RAMY	14	1329	1331	1335	S10	W14	4279	08	13.5	6	SN		3	C		26		
RAMY	14	1428	1429	1436	S07	E27	4281	08	16.6	8	SN		3	C		41		
HOLL	14	1430E	1430U	1454	S07	E26	4281	08	16.6	24D	SN		2	C		34		
RAMY	14	1551	1553	1609	S08	W12	4279	08	13.8	18	SN		3	C		34		
HOLL	14	1551	1553	1623	S07	W11	4278	08	13.8	32	SN		3	C		88		
HOLL	14	1551	1552	1756	S07	W15	4279	08	13.5	125	SN		3	C		62		K
HOLL	14	1551	1643	1756	S07	W15	4279	08	13.5	125	1B		3	C		466		FK
RAMY	14	1552	1553	1605	S07	W07	4278	08	14.1	13	SN		3	C		58		
HOLL	14	1609	1612	1631	S19	E33	4283	08	17.2	22	SF		3	C		18		
RAMY	14	1615	1616	1636	S19	E32	4283	08	17.1	21	SF		3	C		33		
RAMY	14	1624	1625	1759	S08	W14	4279	08	13.6	95	SN		3	C		44		K
RAMY	14	1624	1642	1759	S08	W14	4279	08	13.6	95	1B		3	C		441		FK
RAMY	14	1625	1642	1800	S09	W09	4278	08	14.0	95	1B		3	C		376		K
RAMY	14	1625	1655	1800	S09	W09	4278	08	14.0	95	2B		3	C		570		K
HOLL	14	1626	1642	1751	S07	W11	4278	08	13.9	85	1B		3	C		266		ZFK
HOLL	14	1626	1656	1751	S07	W11	4278	08	13.9	85	2B		3	C		548		K
RAMY	14	1814	1815	1818	N07	E33	4282	08	17.2	4	SF		3	C		32		
HOLL	14	1814	1815	1818	N07	E33	4282	08	17.2	4	SF		3	C		33		
HOLL	14	1908	1914	1954	S08	W17	4279	08	13.5	46	SF		3	C		37		K
HOLL	14	1908	1933	1954	S08	W17	4279	08	13.5	46	SF		3	C		39		K
LEAR	15	0009	0012	0027	S09	W22	4279	08	13.4	18	SF		3	C		96		
LEAR	15	0025	0027	0040	N20	E55	4284	08	19.2	15	SF		3	C		28		
LEAR	15	0036	0045	0153	S08	W17	4278	08	13.8	77	SB		3	C		82		K
LEAR	15	0036	0128	0153	S08	W17	4278	08	13.8	77	SN		3	C		63		K
LEAR	15	0042	0044	0111	S09	W21	4279	08	13.5	29	SN		3	C		89		F
PURP	15	0052E	0052	0107	S10	W20		08	13.5	15D	SF			C	0056	59	.7	E
LEAR	15	0113	0113	0120	N07	E32	4282	08	17.4	7	SF		3	C		56		
LEAR	15	0118	0127	0153	S10	W23	4279	08	13.3	35	SN		3	C		55		F
PURP	15	0123	0136U	0146	S10	W20		08	13.6	23	SF			C	0136	51	.6	E
LEAR	15	0132	0132	0136	N17	E55	4284	08	19.2	4	SN		3	C		28		
LEAR	15	0145	0206	0250	S19	E26	4283	08	17.1	65	SN		3	C		91		U
LEAR	15	0229	0231	0311	S10	W23	4279	08	13.4	42	SN		3	C		103		F
LEAR	15	0230	0232	0252	S10	W17	4278	08	13.8	22	SN		3	C		54		
LEAR	15	0539	0539	0603	S09	W25	4279	08	13.4	24	SN		3	C		29		F
LEAR	15	0720	0720	0731	S08	W19	4278	08	13.9	11	SF		3	C		22		
LEAR	15	0741	0742	0829	S09	W26	4279	08	13.4	48	SN		3	C		33		K
LEAR	15	0741	0803	0829	S09	W26	4279	08	13.4	48	SB		3	C		150		FEK
BUCA	15	0744	0825		S10	W26		08	13.4		1N							C
BUCA	15	0744	0825		S13	W27		08	13.3		SN							B
YUNN	15	0745	0756	0820	S09	W28		08	13.2	35	SN			P		62	.7	
BUCA	15	0755	0802	0825	S10	W24		08	13.5	30	1N			P	0802	430	5.0	E
BUCA	15	0800	0808		S08	W21		08	13.8		1N							DB
YUNN	15	0831	0834	0855	S10	W25		08	13.5	24	SN			C		77	.9	E
LEAR	15	0914	0921	0930D	S07	W25	4279	08	13.5	16D	SN		2	C		75		F
LEAR	15	0914	0924	0930D	S09	W18	4278	08	14.0	16D	SN		2	C		168		F
RAMY	15	1053E	1054U	1109	S10	W27	4279	08	13.4	16D	SN		3	C		73		
RAMY	15	1054E	1054U	1109	S09	W21	4278	08	13.9	15D	SN		3	C		48		
RAMY	15	1413	1414	1439	S05	W22	4278	08	13.9	26	SN		3	C		30		
PALE	15	1818	1829	1841	S09	W24	4278	08	14.0	23	SF		3	C		132		F
LEAR	16	0017	0024	0110	S10	W35	4279	08	13.4	53	SN		3	C		80		F
LEAR	16	0414	0414	0419	S10	W39	4279	08	13.2	5	SN		3	C		23		
LEAR	16	0611	0616	0628	S09	W36	4279	08	13.6	17	SF		3	C		21		

H - ALPHA S O L A R F L A R E S

AUGUST 1983

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	See	Obs Type	Area Measurement Time (UT)	Apparent (10^{-6} Disk)	Corr (Sq Deg)	Remarks
BUCA	16	0655	0707	0745	S09	W44		08	13.0	50	SF			C	0707	54	.8	
BUCA	16	0700	0704	0725	S01	W37		08	13.5	25	SN			C	0704	161	2.1	E
LEAR	16	0701	0703	0720	S02	W37	4280	08	13.5	19	1N		3	C		225		F
LEAR	16	0701	0713	0740	S10	W41	4279	08	13.2	39	SN		3	C		31		
BUCA	16	0701	0710		N00	W36		08	13.6		1B							U
BUCA	16	0701	0716		S07	W42		08	13.1		SN							B
YUNN	16	0719	0719U	0740	S09	W42		08	13.2	21	SN			P	0719	46	.7	
LEAR	16	0757	0823	0928	S10	W42	4279	08	13.2	91	SN		3	C		118		
PEKG	16	0816	0822	0830	S09	W40		08	13.3	14	SF			C	0822	67	.9	E
MONT	16	0820	0822	0836	S09	W42		08	13.2	16	SN			C	0822	110		
RAMY	16	1342E	1342U	1342	S08	W61	4279	08	12.0	16D	SN		2	C		28		
RAMY	16	1345	1345	1400	S10	W40	4279	08	13.6	15	SB		3	C		44		F
HOLL	16	1347E	1347U	1350D	S10	W40	4279	08	13.6	3D	SB		4	C		102		F
HOLL	16	1526	1538	1600D	S08	W45	4279	08	13.3	34D	SN		4	C		38		K
HOLL	16	1526	1557	1600D	S08	W45	4279	08	13.3	34D	SB		4	C		120		FEK
HOLL	16	1526	1608	1612D	S08	W46	4279	08	13.2	46D	SB		4	C		120		
RAMY	16	1546	1557	1601D	S09	W45	4279	08	13.3	15D	SB		3	C		103		
HOLL	16	1550E	1600U	1645D	S08	W37	4278	08	13.9	55D	SB		3	C		65		
HOLL	16	1607	1607	1608D	S08	W33	4278	08	14.2	1D	SB		3	C		168		
HOLL	16	1802	1802	1811	S07	W41	4279	08	13.7	9	SN		3	C		39		F
HOLL	16	2046E	2048U	2100	S01	W44	4280	08	13.6	14D	SF		3	C		32		F
HOLL	16	2141E	2143U	2152	S07	W42	4279	08	13.8	11D	SF		3	C		24		
HOLL	16	2142E	2142U	2246	N18	E29	4286	08	19.1	64D	1B		3	C		255		UE
HOLL	16	2220	2222	2238	S08	W45	4279	08	13.6	18	SN		3	C		69		F
HOLL	17	0043	0051	0105	S08	W50	4279	08	13.3	22	SN		3	C		40		
LEAR	17	0232	0232	0334	S09	W48	4279	08	13.5	62	1B		3	C		242		FE
YUNN	17	0236E	0236U	0254D	S10	W50		08	13.4	18D	2B			P	0236	554	9.3	
LEAR	17	0501	0504	0525	S02	W49	4280	08	13.5	24	SN		3	C		124		
BUCA	17	0646	0658		S08	W51		08	13.5		1B							UF
LEAR	17	0647	0722	0731	S10	W56	4279	08	13.1	44	SN		3	C		34		
BUCA	17	0722	0737		S07	W54		08	13.3		SB							DB
LEAR	17	0809	0816	0917D	S10	W56	4279	08	13.1	68D	SF		3	C		67		K
LEAR	17	0809	0848	0917D	S10	W56	4279	08	13.1	68D	SB		3	C		83		FK
PEKG	17	0845	0850	0922	S08	W56		08	13.2	37	SF			C	0850	34	.6	E
HOLL	17	1338	1338	1342	S07	W60	4279	08	13.1	4	SN		3	C		28		
HOLL	17	1625	1626	1631	S08	W55	4279	08	13.6	6	SF		3	C		23		F
HOLL	17	1632	1636	1649	S08	W54	4279	08	13.6	17	SF		3	C		45		F
HOLL	17	1742	1747	1832	S08	W55	4279	08	13.6	50	SF		3	C		61		F
PALE	17	1904	1905	1944	S09	W54	4279	08	13.7	40	1N		3	C		169		F
HOLL	17	1915E	1915U	1919D	S08	W50	4279	08	14.1	4D	1N		3	C		140		F
HOLL	17	2334E	2334U	2341	N01	W59	4280	08	13.6	7D	SF		2	C		19		
LEAR	18	0117	0129	0157	N00	W56	4280	08	13.9	40	SF		3	C		52		
LEAR	18	0121	0121	0137	S04	W54	4279	08	14.0	16	SF		3	C		17		
LEAR	18	0259	0301	0306	N07	W14	4282	08	17.1	7	SN		3	C		27		
LEAR	18	0457	0501	0511	S09	W67	4279	08	13.2	14	SN		3	C		43		E
YUNN	18	0819	0823	0830	S11	W67		08	13.3	11	SB			C		31		
LEAR	18	0825	0827	0830	S10	W69	4279	08	13.2	5	SF		3	C		18		
LEAR	18	0834	0838	0844	S11	W70	4279	08	13.1	10	SF		3	C		20		FE
HOLL	18	1508	1508U	1601	N08	W20	4282	08	17.1	53	SF		3	C		21		F
HOLL	18	1731	1739	1755	N08	W21	4282	08	17.2	24	SF		3	C		36		F
HOLL	18	1756	1814	1821	N08	W22	4282	08	17.1	25	SF		3	C		29		F
HOLL	18	2253	2254	2258	N09	W24	4282	08	17.2	5	SF		2	C		30		
HOLL	18	2302	2302	2309	N09	W24	4282	08	17.2	7	SF		2	C		34		
LEAR	19	0210	0223	0307	S08	W69	4279	08	13.9	57	1F		3	C		144		UF
PALE	19	0221E	0228U	0256	S08	W63	4279	08	14.4	35D	SN		3	C		86		F
YUNN	19	0226E	0230U	0234D	S07	W65		08	14.2	8D	1B			P	0230	92		F
YUNN	19	0306	0310	0324	S08	W80		08	13.1	18				P				A
LEAR	19	0307	0309	0326	S08	W69	4279	08	14.0	19	1N		3	C		150		UF
PEKG	19	0310E	0310	0323	S08	W90		08	12.4	13D	SB			C	0310	101		A
PALE	19	0317E	0318U	0327	S09	W83	4279	08	12.9	10D	SN		3	C		60		
PEKG	19	0405	0415	0438	S07	W90		08	12.4	33	SF			C	0415	42		A
RAMY	19	1810	1826	1837	N16	E53	4288	08	23.8	27	SN		3	C		99		
HOLL	19	1823	1827	1836	N16	E54	4288	08	23.9	13	SF		3	C		75		
PALE	19	1825	1826	1831	N16	E55	4288	08	23.9	6	SF		3	C		44		F
RAMY	20	1731	1731	1743	N15	E49	4288	08	24.4	12	SF		3	C		20		
RAMY	20	1746	1748	2105	N08	W49	4282	08	17.1	199	SF		3	C		51		
PALE	20	1747	1747	1759	N07	W49	4282	08	17.1	12	SF		3	C		18		F

H - ALPHA SOLAR FLARES

AUGUST 1983

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
HOLL	20	1747	1751	1803	N08	W50	4282	08	17.0	16	SN		3	C		62		F
PALE	20	1802	1804	1831	N15	E50	4288	08	24.5	29	SN		3	C		87		F
HOLL	20	1802	1806	1839	N14	E50	4288	08	24.5	37	SB		3	C		115		FK
HOLL	20	1802	1816	1839	N14	E50	4288	08	24.5	37	SN		3	C		98		K
HOLL	21	1753	1801	1913	N14	E34	4288	08	24.3	80	2B		3	C		795		FE
PALE	21	1757E	1800U	1901D	N15	E36	4288	08	24.5	64D	2B		3	C		510		UF
HOLL	21	2055	2059	2122	N13	E32	4288	08	24.3	27	SN		3	C		74		F
RAMY	22	1238	1247	1309	N15	E23	4288	08	24.3	31	SB		3	C		165		E
HOLL	22	1434	1436	1450	N13	E23	4288	08	24.3	16	SF		3	C		33		
HOLL	22	1444	1501	1525	N08	W75	4282	08	17.0	41	SF		3	C		28		
RAMY	22	1447	1501	1523	N08	W74	4282	08	17.1	36	SF		3	C		22		
RAMY	22	1822	1828	1835	N18	W60	4284	08	18.2	13	SF		3	C		23		
HOLL	23	2322	2324	2328D	N19	W71	4284	08	18.6	6D	2B		3	C		170		FE
RAMY	25	1259	1259	1302	S14	E65	4293	08	30.5	3	SB		3	C		19		
HOLL	25	1259	1259	1313	S12	E73	4293	08	31.0	14	SN		1	C		17		
HOLL	26	2131	2133	2148	S11	E38	4293	08	29.8	17	SF		3	C		32		
LEAR	27	0120	0125	0129	S11	W09	4289	08	26.4	9	SN		3	C		30		FE
MANI	27	0120	0125	0128	S11	W08		08	26.5	8	SF		1	V		25	.3	
PALE	27	0121	0125	0128	S11	W08	4289	08	26.5	7	SF		3	C		23		
LEAR	27	0741	0744	0830	S10	E31	4293	08	29.6	49	1N		3	C		243		F
MONT	27	0743	0746	0837	S11	E35		08	30.0	54	1B			C	0746	250		
PURP	27	0744E	0744	0814D	S11	E33		08	29.8	30D	1B			C	0744	234	3.1	G
LEAR	27	0856	0856	0859	S10	W14	4289	08	26.3	3	SF		3	C		32		
PALE	27	2116E	2117U	2125	S17	E32	4296	08	30.3	9D	SF		3	C		70		
BUCA	28	0713	0717	0750	S11	E20		08	29.8	37	1N			C	0717	376	4.3	
PURP	28	0716	0722	0746	S11	E18		08	29.7	30	SF			C	0722	124	1.4	G
HOLL	28	1610	1614	1625D	S10	W28	4289	08	26.6	15D	SF		4	C		23		F
PEKG	29	0037	0056	0140	S12	W34		08	26.5	63	SF			C	0056	118	1.6	EK
PEKG	29	0037	0115	0140	S12	W34		08	26.5	63	1F			C	0115	176	2.4	U
PURP	29	0039	0100	0208	S13	W32		08	26.6	89	SB			C	0100	113	1.5	
LEAR	29	0051	0115	0203	S12	W33	4289	08	26.5	72	SN		3	C		169		F
HOLL	29	0051	0056	0059D	S10	W32	4289	08	26.6	8D	SN		3	C		79		F
PALE	29	0053E	0115U	0151	S12	W33	4289	08	26.6	58D	SN		3	C		175		UF
LEAR	29	0449	0454	0458	S20	E22	4300	08	30.9	9	SF		3	C		59		UF
LEAR	30	0232	0237	0309	S12	W01	4293	08	30.0	37	SF		3	C		48		
HOLL	30	1918	1926	2048D	S10	W15	4293	08	29.7	90D	SF		2	C		36		K
HOLL	30	1918	1938	2048D	S10	W15	4293	08	29.7	90D	SN		2	C		95		FK
HOLL	30	1926	1926	1935	S10	W56	4289	08	26.6	9	SF		3	C		16		
PALE	30	1940	1947	1957	S12	W13	4293	08	29.8	17	SF		3	C		114		
HOLL	30	1944	1948	2048D	S12	W09	4296	08	30.1	64D	SF		2	C		27		
PALE	30	1945	1948	2001	S16	W09	4296	08	30.1	16	SF		3	C		29		
PURP	31	0242E	0248	0251	S04	W08		08	30.5	9D	SF			P	0248	48	.5	G
PALE	31	2135	2136	2143	S09	W58		08	27.5	8	SF		3	C		31		

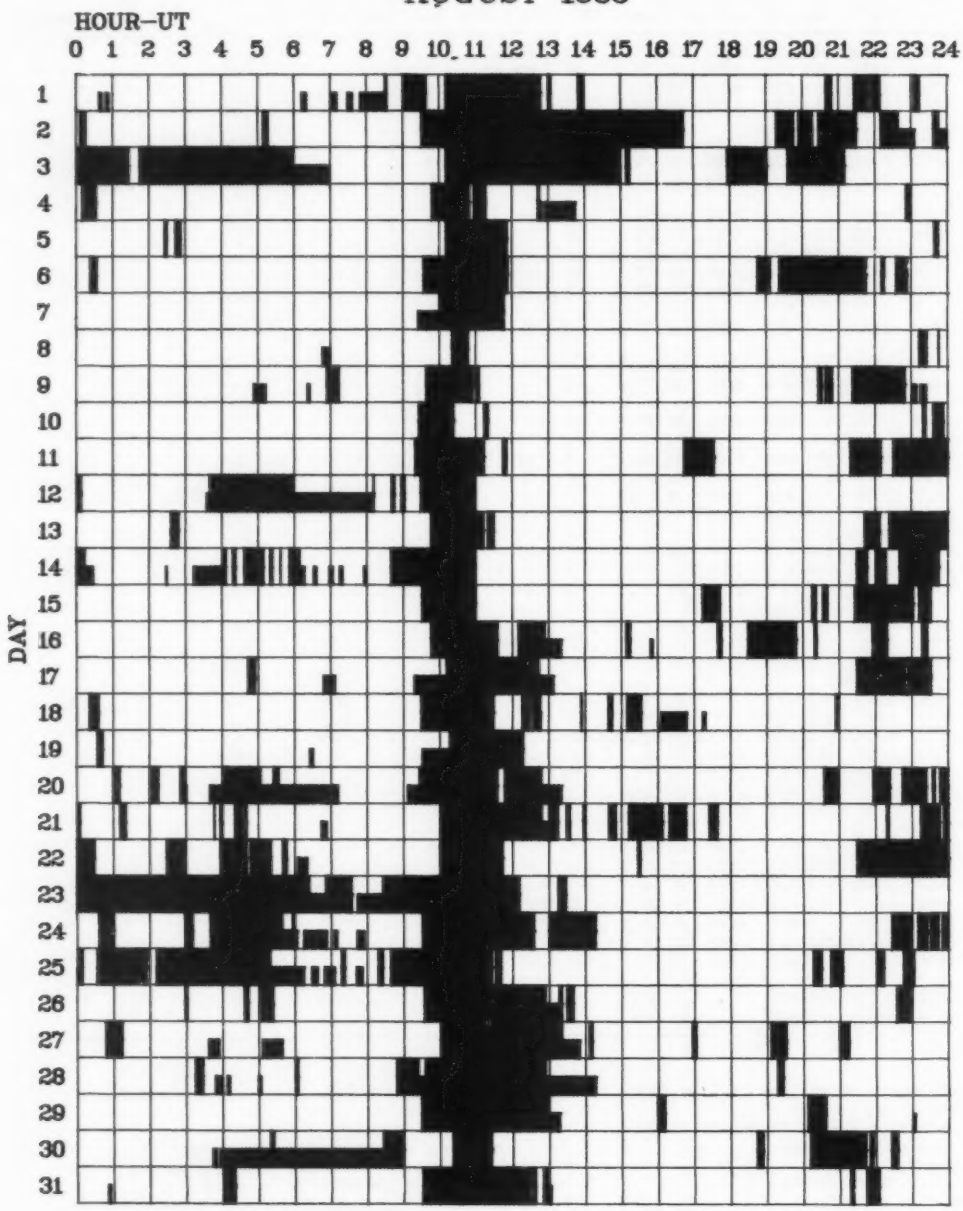
"Remarks":

A = Eruptive prominence whose base is less than 90° from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by high-speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the H and K lines of Ca II.
P = Flare shows helium D3 in emission.
Q = Flare shows Balmer continuum in emission.
R = Marked asymmetry in H-alpha line suggests ejection of high-velocity material.
S = Brightness follows disappearance of filament in same position.
T = Region active all day.
U = Two bright branches, parallel or converging.
V = Occurrence of an explosive phase: important, expansion within roughly 1 minute that often includes a significant intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide H-alpha line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

AUGUST 1983



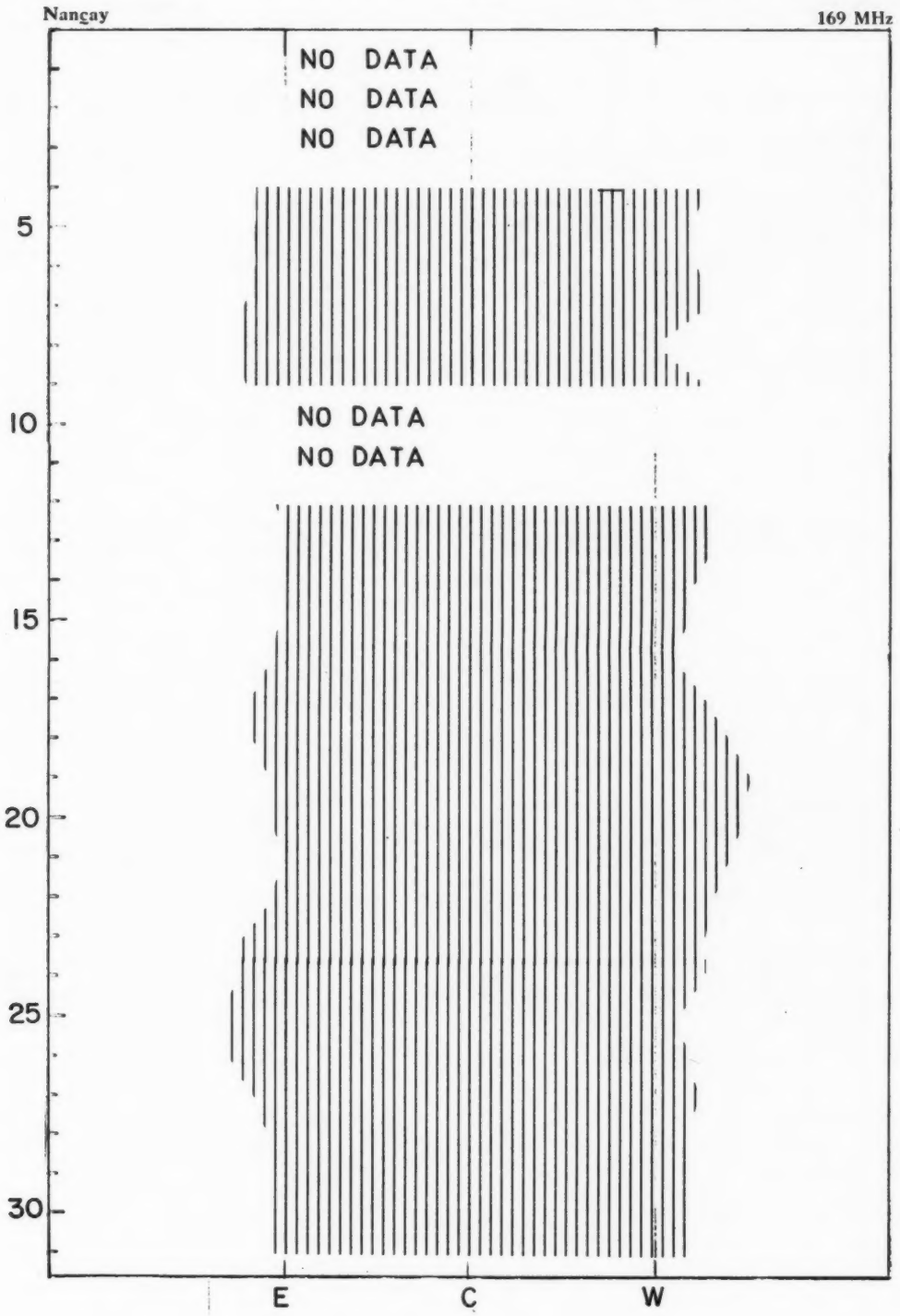
Observatories included in total patrol:

Bucharest	Learmonth	Monte Mario	Peking	Ramey
Holloman	Manila	Palehua	Purple Mt.	Wendelstein
				Yunnan

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

AUGUST 1983

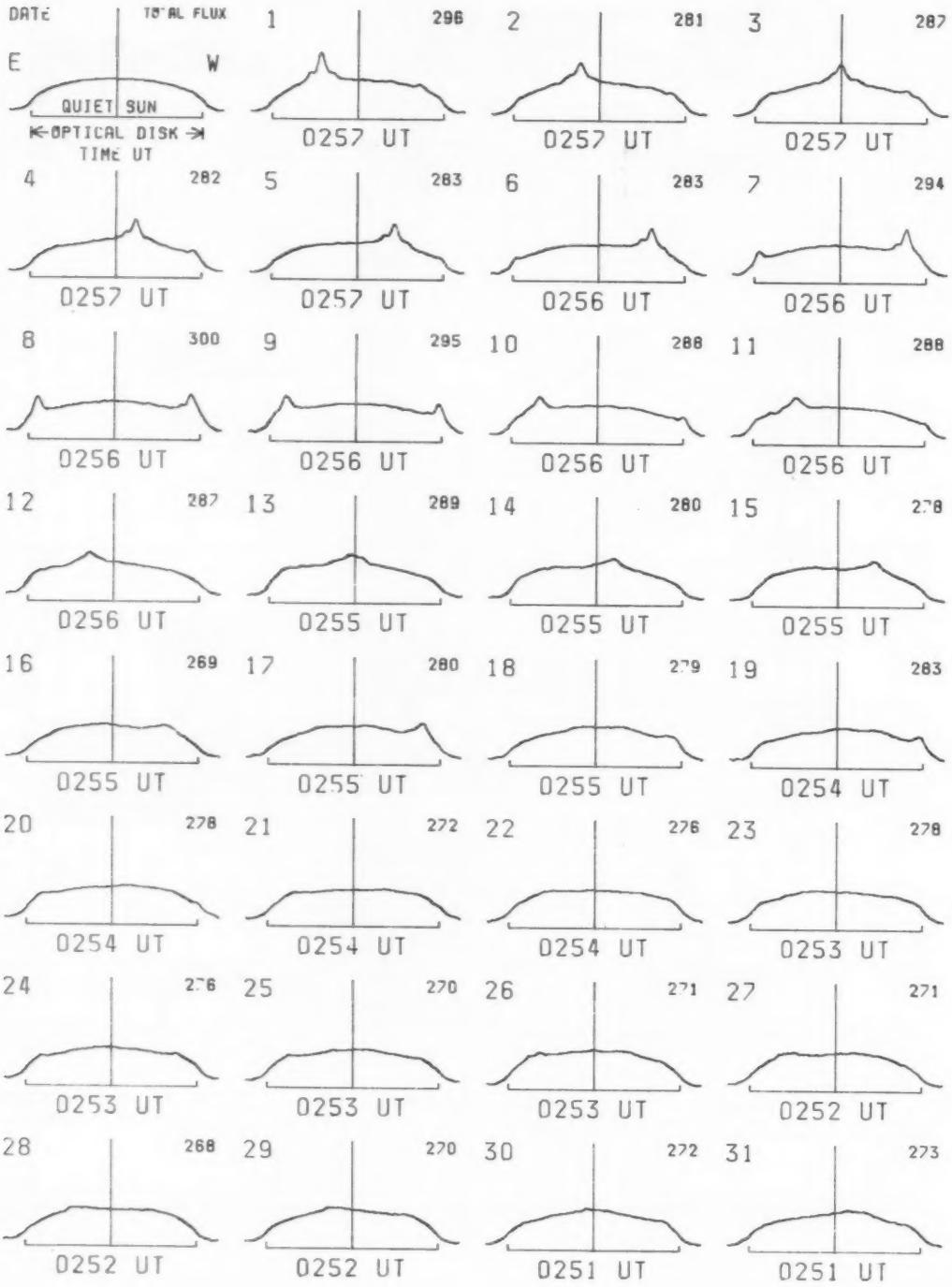


24
Aug 83

EAST-WEST SOLAR SCANS
AUGUST 1983

TOYOKAWA, JAPAN

3 CM
FAN BEAM WITH 1.1 MINUTES OF ARC

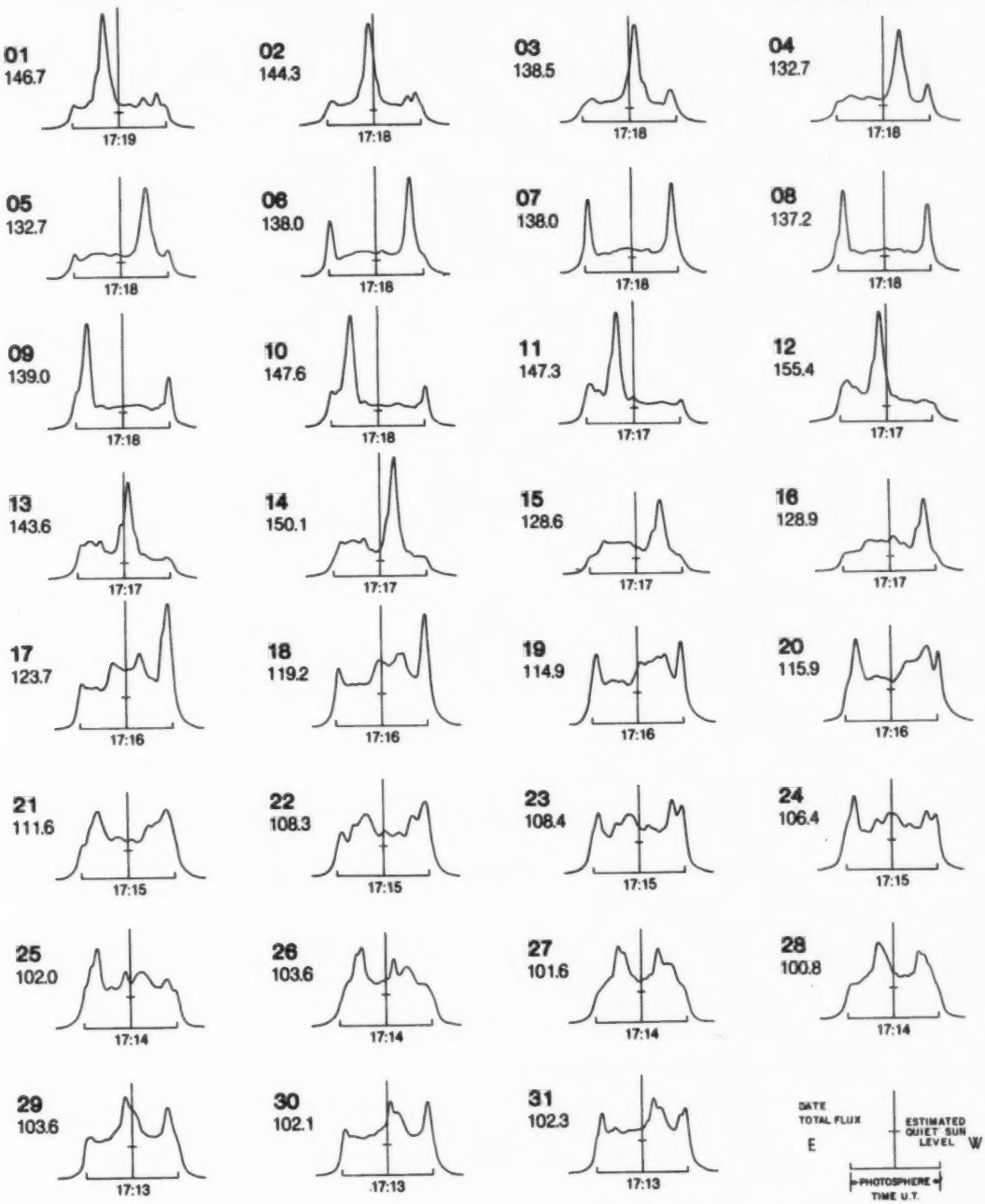


EAST-WEST SOLAR SCANS

AUGUST 1983

ALGONQUIN RADIO OBSERVATORY
CANADA

10·7 cm
Fan Beam with 1·5 minutes of arc
E-W Resolution



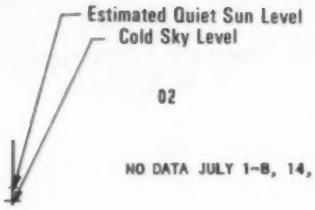
26
Aug 83

EAST-WEST SOLAR SCANS

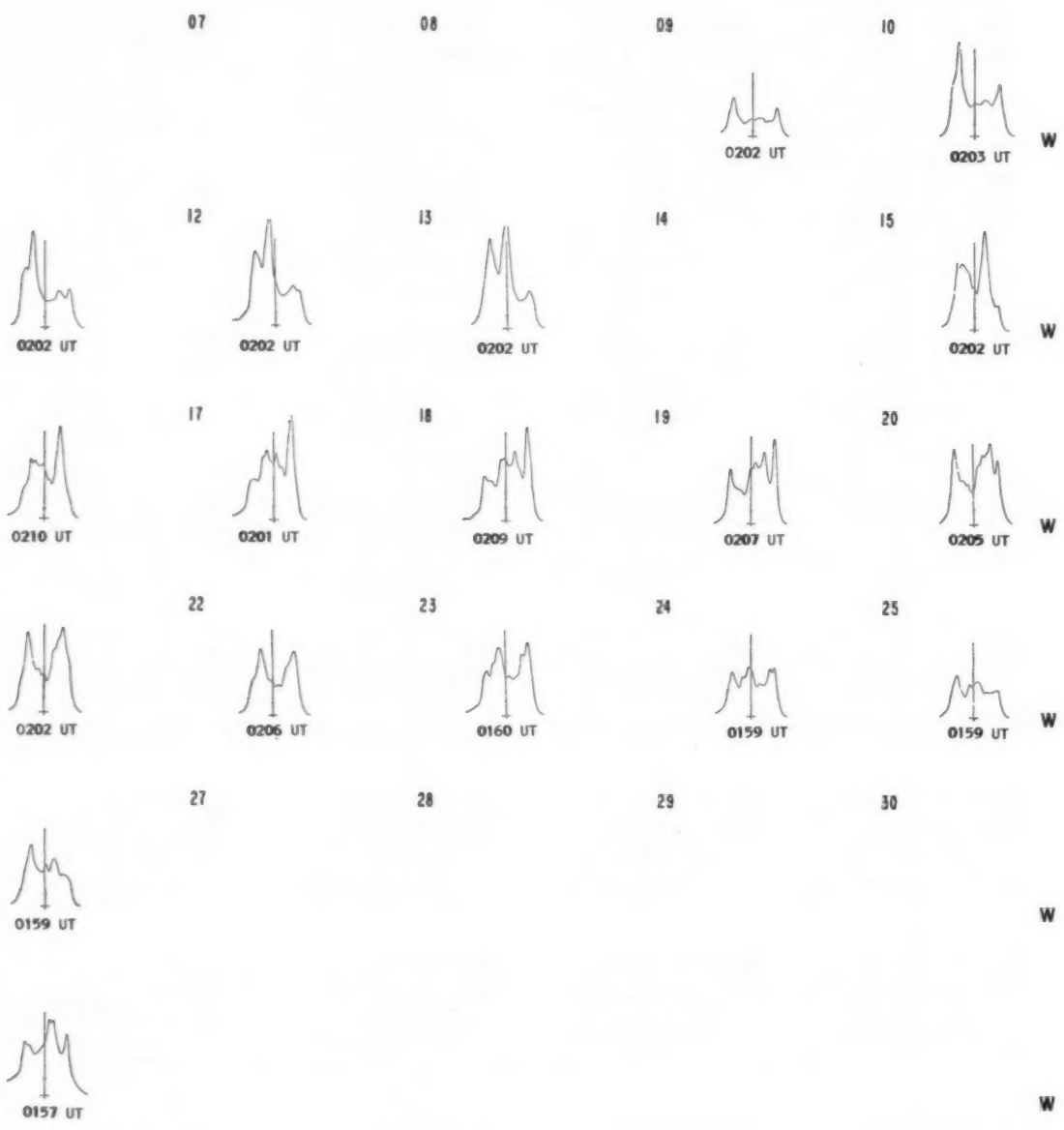
JULY 1983

Fleurs, Australia

21 cm
Fan-Beam with 2 minutes of arc
E-W Resolution



NO DATA JULY 1–8, 14, 27–30, 1983

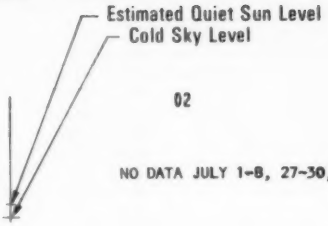


EAST-WEST SOLAR SOLAR SCANS

JULY 1983

Fleurs, Australia

43 cm
Fan-Beam with 4 minutes of arc
E-W Resolution



NO DATA JULY 1-8, 27-30, 1983

01	02	03	04	05
06	07	08	09	10
			0202 UT	0211 UT
11	12	13	14	15
0201 UT	0202 UT	0202 UT	0202 UT	0202 UT
16	17	18	19	20
0201 UT	0201 UT	0201 UT	0201 UT	0200 UT
21	22	23	24	25
0200 UT	0160 UT	0160 UT	0159 UT	0159 UT
26	27	28	29	30
0159 UT				
31				
0157 UT				

E ... W

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

AUGUST 1983

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
01	2695	LEAR	8	S	0257.3	0258.1	1.0	13.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0312.1	0314.3	3.0	33.0			QL=6 ST=2 TYP=3
	8800	LEAR	49	GB	0315.1	0319.3	15.9	550.0			QL=6 ST=2 TYP=6
	2695	LEAR	47	GB	0315.1	0319.5	15.9	410.0			QL=6 ST=2 TYP=5
	8800	PALE	49	GB	0316.6	0319.3	7.4	530.0			QL=6 ST=2 TYP=6
	8800	PALE	47	GB	0324.0	0328.6	11.6	280.0			QL=6 ST=2 TYP=5
	2695	LEAR	47	GB	0331.0	0331.1	46.1	239.0			QL=6 ST=2 TYP=5
	8800	LEAR	47	GB	0331.0	0340.6	46.1	139.0			QL=6 ST=2 TYP=5
	2695	SGMR	47	GB	1227.8	1228.6	1.7	130.0			QL=6 ST=2 TYP=5
	8400	BERN	45	C	1227.9	1228.6	15.0U	652.0			
	2800	OTTA	4	S/F	1228.0	1228.6	3.0	141.0	33.0		
	8800	SGMR	47	GB	1228.3	1228.6	1.0	420.0			QL=6 ST=2 TYP=5
	2800	OTTA	21	GRF	1355.0		70.0	2.8			
	2800	OTTA	1	S	1440.0	1441.0	3.0	3.4	1.5		
	2800	OTTA	20	GRF	1520.0	1545.0	40.0	3.4	1.4		
	2800	OTTA	21	GRF	1745.0	1820.0	85.0	2.8	1.4		
	2800	OTTA	1	S	1747.2	1748.0	3.0	3.0	1.5		
	2800	OTTA	22	GRF	1950.0	1953.0	30.0	2.8	.9		
	2695	PENT	20	GRF	2325.0	2340.0	35.0	3.4	1.6		
02	8800	LEAR	8	S	0001.0	0001.1	.3	13.0			QL=6 ST=2 TYP=3
	2800	OTTA	20	GRF	1230.0	1344.0	240.0	4.4	1.4		
	2800	OTTA	1	S	1646.0	1646.7	4.0	7.8	2.0		
	8800	PALE	8	S	1646.6	1646.8	.4	35.0			QL=6 ST=2 TYP=3
	8800	SGMR	8	S	1646.6	1646.8	.5	19.0			QL=6 ST=3 TYP=3
	2800	OTTA	20	GRF	1657.0	1659.2	11.0	4.0	1.8		
	8800	SGMR	8	S	1859.6	1900.1	1.2	25.0			QL=6 ST=3 TYP=3
	2800	OTTA	3	S	1859.7	1900.0	1.0	14.2	6.0		
	2695	SGMR	8	S	1859.8	1900.0	.5	19.0			QL=6 ST=3 TYP=3
	2695	SGMR	8	S	1909.6	1909.8	.5	40.0			QL=6 ST=2 TYP=3
	2800	OTTA	21	GRF	1912.0	1922.0	55.0	3.0	1.4		
	2800	OTTA	1	S	1913.0	1914.0	3.5	2.6	1.8		
	2800	OTTA	1	S	2145.0	2145.7	1.0	3.6	1.8		
	2695	PENT	40	F	2328.0	2336.0	27.0	51.0			
	2695	LEAR	8	S	2343.8	2344.0	.3	15.0			QL=6 ST=2 TYP=3
	2695	PENT	4	S/F	2359.5	2359.9	3.0	27.0	9.2		
	2695	LEAR	8	S	2359.6	0000.3	1.0	25.0			QL=6 ST=2 TYP=3
03	8800	LEAR	8	S	0007.1	0008.1	1.2	17.0			QL=6 ST=2 TYP=3
	2800	OTTA	1	S	1201.0	1201.5	1.0	4.2	2.0		
	2800	OTTA	21	GRF	1420.0		200.0	12.4			
	8800	SGMR	49	GB	1444.6	1449.5	85.9	1500.0			QL=6 ST=2 TYP=6
	2800	OTTA	47	GB	1446.0	1450.0	15.0	1435.0	379.0		
	2695	ATHN	49	GB	1446.5	1449.6	57.1	1399.0			QL=2 ST=2 TYP=6
	2695	SGMR	49	GB	1446.5	1449.6	84.0	1399.0			QL=6 ST=2 TYP=6
	8800	ATHN	49	GB	1447.3	1449.5	56.3	1500.0			QL=2 ST=3 TYP=6
	8400	BERN	47	GB	1447.4	1449.6	170.0U	1789.0			
	2800	OTTA	30	PBI	1501.0	1501.0	90.0	53.0	18.0		
	2800	OTTA	1	S	1513.0	1514.5	4.0	3.0	1.5		
	2800	OTTA	21	GRF	1750.0	2035.0	270.0	4.6	1.8		
	2800	OTTA	45	C	2033.0	2033.7	3.0	2.2	1.0		
	2800	OTTA	45	C	2128.0	2131.0	6.0	13.6	4.4		
	2695	SGMR	8	S	2130.6	2130.8	.5	16.0			QL=6 ST=2 TYP=3
04	8800	LEAR	4	S/F	0222.5	0223.6	14.5	10.0			QL=6 ST=2 TYP=3
	8800	PALE	49	GB	0341.5	0342.1	6.3	590.0			QL=6 ST=2 TYP=6
	2800	OTTA	260	FAL	1310.0	1330.0	20.0	-2.8	-1.4		
	2800	OTTA	260	FAL	1435.0	1500.0	25.0	-2.8	-1.6		
	2800	OTTA	20	GRF	1750.0	1820.0	50.0	2.0	1.0		
	2800	OTTA	21	GRF	1910.0	1955.0	195.0	3.3	2.0		
	2800	OTTA	1	S	2142.0	2144.5	7.0	2.6	1.7		
	2800	OTTA	40	F	2248.2	2249.4	2.0	2.6			
05	2695	LEAR	4	S/F	0336.0	0337.1	6.0	10.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0336.1	0337.5	8.9	9.0			QL=6 ST=2 TYP=3
	2800	OTTA	1	S	1132.0	1133.0	7.0	2.6	1.0		
	2800	OTTA	21	GRF	1243.0	1304.0	150.0	12.0	7.0		
	8800	ATHN	4	S/F	1243.5	1245.0	4.3	7.0			QL=6 ST=2 TYP=3
	2800	OTTA	4	S/F	1243.5	1245.2	2.5	20.0	9.5		
	2695	ATHN	4	S/F	1243.5	1245.3	4.8	20.0			QL=6 ST=2 TYP=3
	8800	SGMR	8	S	1244.5	1245.1	1.3	22.0			QL=6 ST=2 TYP=3

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

AUGUST 1983

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
05	2695	SGMR	8	S	1244.8	1245.3	.8	21.0			QL=6 ST=2 TYP=3
	2800	OTTA	40	F	1248.0	1251.5	13.0	6.4			
	8800	ATHN	20	GRF	1250.0	1300.6	49.6	23.0			QL=6 ST=2 TYP=2
	2695	ATHN	20	GRF	1251.3	1304.6	48.5	5.0			QL=6 ST=2 TYP=2
	2800	OTTA	21	GRF	1710.0	1905.0	140.0	2.6	1.2		
	2800	OTTA	1	S	1733.8	1734.0	1.5	2.8	1.6		
06	2695	PENT	21	GRF	0115.0	0125.0	30.0D	6.8			
	8800	LEAR	4	S/F	0118.3	0131.6	14.2	13.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0118.5	0123.1	8.8	13.0			QL=6 ST=2 TYP=3
	2695	PENT	40	F	0122.9	0123.0	3.0	6.8			
	2800	OTTA	240	R	1145.0	1200.0	15.0	2.8	1.4		
	2800	OTTA	240	R	1525.0	1540.0	15.0	2.8	1.4		
	2800	OTTA	240	R	1640.0	1655.0	15.0	2.8	1.4		
	2800	OTTA	1	S	1907.0	1908.0	3.0	2.6	1.3		
	2800	OTTA	27A	RF	1945.0		175.0	2.6	2.3		
	2800	OTTA	24	R	1945.0	1955.0	10.0	2.6	1.3		
	2800	OTTA	24P	R	1955.0		135.0	2.6			
	2800	OTTA	1	S	2154.0	2156.0	6.0	1.6	.8		
	2800	OTTA	26	FAL	2210.0	2240.0	30.0	-2.6	-1.3		
07	2695	ATHN	4	S/F	0652.0	0653.1	10.5	22.0			QL=6 ST=2 TYP=3
	2695	LEAR	8	S	0652.6	0653.0		21.0			QL=6 ST=3 TYP=3
	8800	LEAR	47	GB	0652.6	0653.1		58.0			QL=6 ST=3 TYP=5
	8800	ATHN	47	GB	0652.6	0653.1	10.0	63.0			QL=6 ST=2 TYP=5
	2695	LEAR	4	S/F	0730.3	0734.6	9.5	41.0			QL=6 ST=2 TYP=3
	2695	ATHN	4	S/F	0730.6	0734.8	21.2	32.0			QL=6 ST=2 TYP=3
	8800	ATHN	4	S/F	0732.3	0742.8	26.0	20.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0915.5	0916.3	3.5	35.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0915.5	0916.3	4.6	40.0			QL=6 ST=2 TYP=3
	2695	ATHN	4	S/F	0915.5	0916.3	5.1	32.0			QL=6 ST=2 TYP=3
	8800	ATHN	47	GB	0915.6	0916.3	4.2	50.0			QL=6 ST=2 TYP=5
	2800	OTTA	21	GRF	1215.0	1240.0	150.0	8.8	6.2		
	2800	OTTA	1	S	1237.0	1238.4	3.0	4.0	1.8		
	8800	ATHN	4	S/F	1237.5	1238.5	2.5	3.0			QL=6 ST=2 TYP=3
	2695	SGMR	8	S	1238.1	1238.1	.4	13.0			QL=6 ST=2 TYP=3
	2800	OTTA	1	S	1315.0	1317.0	3.0	2.4	1.7		
	2800	OTTA	22	GRF	1520.0	1620.0	80.0	2.8	1.6		
	2800	OTTA	240	R	2100.0	2130.0	30.0	2.8	1.4		
	2800	OTTA	1	S	2132.0	2133.0	4.0	2.8	1.4		
	2800	OTTA	4	S/F	2153.0	2157.5	11.0	88.0	21.0		
	2695	SGMR	47	GB	2155.0	2157.6		81.0			QL=6 ST=3 TYP=5
	8800	SGMR	47	GB	2155.6	2157.6		72.0			QL=6 ST=3 TYP=5
	8800	PALE	47	GB	2155.6	2157.6	4.7	82.0			QL=6 ST=2 TYP=5
	2800	OTTA	240	AR	2215.0	2250.0	35.0	5.4	2.7		
	2800	OTTA	1	S	2231.0	2233.5	6.0	2.8	1.4		
08	8800	LEAR	47	GB	0247.3	0254.6	27.7	480.0			QL=6 ST=2 TYP=5
	2695	LEAR	47	GB	0248.3	0254.8	26.7	180.0			QL=6 ST=2 TYP=5
	8800	PALE	49	GB	0250.8	0254.6	39.0	570.0			QL=6 ST=2 TYP=6
	8800	PALE	20	GRF	0329.8	0330.0	11.0	35.0			QL=6 ST=3 TYP=2
	2695	LEAR	4	S/F	0443.6	0444.5	2.9	8.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0444.1	0444.6	.7	15.0			QL=6 ST=2 TYP=3
	2695	ATHN	4	S/F	0714.6	0717.5	3.7	9.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0714.8	0717.6	4.5	15.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0715.0	0716.8	4.1	13.0			QL=6 ST=2 TYP=3
	8800	ATHN	4	S/F	0715.1	0716.8	3.2	18.0			QL=6 ST=2 TYP=3
	2800	OTTA	22	GRF	1100.0	1150.0	150.0	4.2	2.1		
	2800	OTTA	240	R	2120.0	2155.0	35.0	2.8	1.4		
	2695	PENT	45	C	2315.0	2317.0	4.0	10.0	2.6		
09	8800	LEAR	20	GRF	0005.3	0009.6	12.5	7.0			QL=6 ST=2 TYP=2
	2695	PENT	3	S	0006.0	0010.0	7.0	19.0	9.5		
	2695	LEAR	20	GRF	0007.6	0010.3	5.9	15.0			QL=6 ST=3 TYP=2
	2695	PENT	29	PBI	0013.0	0013.0	60.0	7.0	3.3		
	2800	OTTA	20	GRF	1400.0	1430.0	80.0	3.6			
10	8800	LEAR	4	S/F	0625.3	0631.3	10.5	11.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0628.0	0631.5	6.1	8.0			QL=6 ST=2 TYP=3
	2800	OTTA	1	S	1120.0	1127.0	10.0	6.8	3.4		
	2800	OTTA	29	PBI	1130.0	1130.0	45.0	4.0	2.0		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

AUGUST 1983

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
10	2800	OTTA	20	GRF	1705.0	1710.0	15.0	2.2	1.1		
	2800	OTTA	27A	RF	2225.0		115.0	2.8	2.4		
	2800	OTTA	24	R	2225.0	2230.0	5.0	2.8	1.4		
	2800	OTTA	24P	R	2230.0		85.0	2.8			
	2800	OTTA	1	S	2238.7	2239.3	1.0	2.4	1.0		
	2695	PENT	1	S	2252.0	2253.0	6.0	2.8	1.4		
	2695	LEAR	4	S/F	2352.3	2353.5	2.3	8.0			QL=6 ST=2 TYP=3
	2695	PENT	1	S	2353.0	2353.5	1.2	5.2	2.4		
	2695	PENT	26	FAL	2355.0	0020.0	25.0	-2.8	-1.4		
11	2800	OTTA	20	GRF	1600.0	1630.0	60.0	2.2	1.4		
	2800	OTTA	24A	R	1910.0	1928.0	18.0	4.0	1.8		
	2695	SGMR	4	S/F	1910.0	1911.0	2.6	11.0			QL=2 ST=2 TYP=3
	2800	OTTA	3	S	1910.2	1911.0	2.0	10.4	5.0		
	2800	OTTA	3	S	1914.1	1914.7	1.8	32.0	15.0		
	8800	SGMR	47	GB	1914.5	1914.6	.8	169.0			QL=6 ST=2 TYP=5
	2695	SGMR	8	S	1914.5	1914.8	.8	33.0			QL=2 ST=2 TYP=3
	8800	PALE	47	GB	1914.6	1914.6	.7	169.0			QL=6 ST=2 TYP=5
	2800	OTTA	20	GRF	2230.0	2245.0	60.0	2.4	1.2		
12	2695	PENT	21	GRF	0015.0	0040.0	70.0	5.0	2.5		
	8800	LEAR	8	S	0021.6	0022.1	1.0	20.0			QL=6 ST=2 TYP=3
	2695	PENT	40	F	0021.7	0025.9	7.0	39.0			
	2695	LEAR	8	S	0022.1	0022.1	.2	13.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0024.6	0026.3	3.5	18.0			QL=6 ST=3 TYP=3
	8800	LEAR	20	GRF	0024.6	0026.5	5.0	26.0			QL=6 ST=3 TYP=2
	2695	LEAR	8	S	0026.3	0026.3	.3	18.0			QL=6 ST=2 TYP=3
	2695	ATHN	4	S/F	0421.6	0423.3	4.5	7.0			QL=6 ST=2 TYP=3
	8800	ATHN	47	GB	0422.6	0423.1	3.0	71.0			QL=6 ST=2 TYP=5
	8800	LEAR	47	GB	0422.8	0423.1	1.3	78.0			QL=6 ST=2 TYP=5
	2695	LEAR	8	S	0423.1	0423.1	.2	17.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0549.3	0550.1	3.3	13.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0549.3	0550.3	2.8	11.0			QL=6 ST=2 TYP=3
	2695	ATHN	4	S/F	0549.5	0550.1	4.8	5.0			QL=6 ST=2 TYP=3
	8800	ATHN	4	S/F	0549.6	0550.3	6.5	18.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0729.0	0729.6	1.1	10.0			QL=5 ST=2 TYP=3
	8800	LEAR	8	S	0744.8	0745.0	.3	4.0			QL=6 ST=2 TYP=3
	2695	LEAR	8	S	0745.0	0745.1	.1	4.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0758.6	0800.8	5.9	19.0			QL=6 ST=2 TYP=3
	8800	ATHN	4	S/F	0758.6	0801.6	12.5	43.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0759.1	0801.5	4.5	37.0			QL=6 ST=2 TYP=3
	2695	ATHN	4	S/F	0800.6	0802.3	4.2	15.0			QL=6 ST=2 TYP=3
	8800	ATHN	47	GB	0851.3	0852.0	3.8	100.0			QL=6 ST=2 TYP=5
	2695	ATHN	4	S/F	0851.6	0851.8	2.2	30.0			QL=6 ST=2 TYP=3
	2800	OTTA	23	GRF	1218.0	1248.0	185.0	7.8	3.8		
	2800	OTTA	2	S/F	1234.0	1236.3	4.0	4.8	2.4		
	2800	OTTA	2	S/F	1242.0	1242.4	4.0	3.6	1.4		
	2800	OTTA	1	S	1333.0	1334.0	1.2	2.0	.8		
	2800	OTTA	20	GRF	1600.0	1603.0	20.0	2.8	.9		
	2800	OTTA	23	GRF	1635.0	1850.0	305.0	8.4	4.2		
	2800	OTTA	4	S/F	1755.0	1758.0	7.0	55.0	22.0		
	8800	PALE	4	S/F	1757.3	1758.8	4.5	38.0			QL=6 ST=2 TYP=3
	2800	OTTA	29	PBI	1802.0	1802.0	25.0	12.0	4.4		
13	8800	LEAR	4	S/F	0019.1	0020.0	2.7	5.0			QL=5 ST=2 TYP=3
	2695	LEAR	4	S/F	0019.3	0020.1	2.5	7.0			QL=5 ST=2 TYP=3
	2695	ATHN	47	GB	0355.1E	0356.8	9.9D	110.0			QL=1 ST=2 TYP=5
	8800	ATHN	47	GB	0421.0	0424.3	14.6	57.0			QL=6 ST=3 TYP=5
	2695	ATHN	47	GB	0421.0	0424.6	14.6	66.0			QL=6 ST=3 TYP=5
	8800	ATHN	4	S/F	0701.8	0705.8	11.8	20.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0702.0	0710.1	20.0	18.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0702.1	0707.3	19.9	20.0			QL=6 ST=2 TYP=3
	2695	ATHN	4	S/F	0704.6	0705.8	9.0	15.0			QL=6 ST=2 TYP=3
	2800	OTTA	21	GRF	1245.0	1345.0	80.0	21.0	7.0		
	2800	OTTA	20	GRF	1318.0	1323.5	23.0	5.2	2.4		
	2695	SGMR	4	S/F	1321.6	1323.6	3.0	21.0			QL=6 ST=2 TYP=3
	2800	OTTA	4	S/F	1809.0	1813.2	16.0	117.0	44.0		
	8800	SGMR	47	GB	1810.1	1811.6	26.0	480.0			QL=6 ST=2 TYP=5
	8800	PALE	49	GB	1810.1	1811.8		530.0			QL=6 ST=1 TYP=6
	2695	SGMR	47	GB	1810.3	1811.8	10.5	100.0			QL=6 ST=2 TYP=5
	2800	OTTA	29	PBI	1825.0	1825.0	45.0	18.4	6.4		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

AUGUST 1983

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
13	2800	OTTA	21	GRF	2225.0	2230.0	45.0	2.0	1.0		
	2695	PENT	1	S	2250.0	2251.0	5.0	2.6	1.3		
14	2695	PENT	21	GRF	0020.0	0030.0	75.0	5.8	2.9		
	2695	PENT	4	S/F	0023.0	0024.2	4.0	15.0	5.0		
	2695	LEAR	8	S	0723.6	0724.3	1.2	11.0			QL=6 ST=2 TYP=3
	2800	OTTA	20	GRF	1245.0	1310.0	65.0	4.2	2.1		
	2800	OTTA	28	PRE	1623.0	1634.0	16.0	5.2			
┌	2800	OTTA	4	S/F	1639.0	1642.0	6.0	294.0	73.0		
├	8800	ATHN	47	GB	1639.1	1641.6	8.7	65.0			QL=6 ST=2 TYP=5
└	2695	ATHN	47	GB	1640.1	1641.6	4.5	210.0			QL=6 ST=2 TYP=5
	2800	OTTA	29	PBI	1645.0	1645.0	80.0	38.0	13.4		
	2800	OTTA	260	FAL	1815.0	1830.0	15.0	-3.0	-1.5		
	2800	OTTA	20	GRF	1905.0	1930.0	140.0	3.0	1.8		
15	8800	LEAR	4	S/F	0042.0	0043.8	5.1	19.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0228.8	0229.5	2.0	15.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0229.0	0231.5	3.5	6.0			QL=6 ST=2 TYP=3
┌	8800	LEAR	20	GRF	0738.0	0803.6	42.0	13.0			QL=6 ST=2 TYP=2
└	2695	LEAR	20	GRF	0751.8	0802.5	21.2	9.0			QL=6 ST=2 TYP=2
	8400	BERN	3	S	0937.4	0937.9	30.0U	312.0			
	2800	OTTA	20	GRF	1115.0	1200.0	100.0	2.8	1.4		
	2800	OTTA	1	S	1449.5	1450.9	3.2	3.2	1.6		
	2800	OTTA	32	ABS	1515.0	1610.0	145.0	-5.6	-2.8		
	2800	OTTA	22	GRF	1805.0	1820.0	40.0	6.4	2.2		
	8800	PALE	47	GB	2027.8	2028.5	1.5	74.0			QL=5 ST=2 TYP=5
16	8800	LEAR	20	GRF	0016.8	0019.6	12.2	10.0			QL=6 ST=2 TYP=2
├	2695	PENT	20	GRF	0017.0	0022.0	45.0	10.4	3.4		
└	2695	LEAR	20	GRF	0017.3	0021.5	14.7	13.0			QL=6 ST=2 TYP=2
┌	2695	LEAR	4	S/F	0817.6	0820.3	14.2	11.0			QL=6 ST=2 TYP=3
└	8800	LEAR	4	S/F	0818.6	0819.8	11.5	9.0			QL=6 ST=2 TYP=3
	2800	OTTA	3	S	1344.0	1345.0	1.5	13.2	6.6		
	2800	OTTA	29	PBI	1345.5	1345.5	18.0	5.4	1.5		
	2800	OTTA	21	GRF	1535.0	1538.0	110.0	2.8			
	2800	OTTA	20	GRF	1555.0	1600.0	45.0	11.6	4.4		
	2695	SGMR	4	S/F	1556.5	1558.8	2.6	9.0			QL=6 ST=2 TYP=3
	2800	OTTA	1	S	1801.0	1802.0	2.0	3.2	1.6		
	2800	OTTA	40	F	1940.2	1942.0	2.8	2.6			
	2800	OTTA	21	GRF	2137.0	2200.0	170.0	6.4	3.2		
	2800	OTTA	1	S	2138.5	2139.5	2.5	5.4	2.5		
	2800	OTTA	20	GRF	2220.0	2224.0	13.0	2.8	1.4		
17	2695	PENT	20	GRF	0040.0	0050.0	50.0	2.8	1.4		
┌	8800	LEAR	47	GB	0231.8	0232.3	2.5	189.0			QL=6 ST=2 TYP=5
├	8800	PALE	47	GB	0232.0	0232.3	1.3	160.0			QL=3 ST=2 TYP=5
└	2695	LEAR	47	GB	0232.0	0232.5	4.1	119.0			QL=6 ST=2 TYP=5
	2800	OTTA	21	GRF	1740.0	1755.0	40.0	6.4	3.0		
	2800	OTTA	2	S/F	1744.0	1746.0	5.5	8.6	6.0		
┌	2800	OTTA	3	S	1904.0	1905.1	4.0	135.0	43.0		
├	2695	SGMR	47	GB	1904.3	1905.3	3.0	119.0			QL=6 ST=2 TYP=5
├	8800	SGMR	47	GB	1904.6	1905.3	2.0	130.0			QL=6 ST=2 TYP=5
└	8800	PALE	47	GB	1904.8	1905.3	1.3	110.0			QL=6 ST=2 TYP=5
	2800	OTTA	29	PBI	1908.0	1908.0	80.0	15.8	3.6		
18	2800	OTTA	21	GRF	1505.0	1520.0	55.0	2.0	1.0		
	2800	OTTA	45	C	1511.0	1511.9	1.2	3.6			
┌	2695	SGMR	4	S/F	1511.0	1513.3	5.3	15.0			QL=6 ST=3 TYP=3
├	2695	ATHN	20	GRF	1511.3	1514.8	23.0	7.0			QL=5 ST=3 TYP=2
└	2800	OTTA	1	S	1513.0	1513.3	1.0	7.4	3.5		
	2800	OTTA	1	S	1913.8	1914.0	2.0	6.2	2.0		
	2800	OTTA	20	GRF	2015.0	2030.0	80.0	2.2	1.1		
19	2695	PENT	1	S	2004.0	2005.5	4.0	2.0	.7		
	2800	OTTA	1	S	2232.0	2234.0	5.0	7.4	3.7		
20	2695	LEAR	4	S/F	0848.8	0853.1	7.2	11.0			QL=6 ST=2 TYP=3
	2800	OTTA	1A	S	1524.0	1527.0	10.0	2.0	1.0		
	2800	OTTA	1	S	1527.8	1528.2	2.5	5.6	2.4		
	2800	OTTA	20	GRF	1800.0	1820.0	65.0	3.4	1.8		
21	2800	OTTA	21	GRF	1755.0	1808.0	145.0	9.6	3.6		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

AUGUST 1983

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
21	2800	OTTA	4	S/F	1756.5	1758.0	9.0	67.0	17.0		
	2695	SGMR	47	GB	1756.8	1757.6	4.7	82.0			QL=6 ST=2 TYP=5
	8800	SGMR	47	GB	1757.0	1758.1	7.3	85.0			QL=6 ST=2 TYP=5
	8800	PALE	47	GB	1757.3	1758.1	7.0	110.0			QL=6 ST=2 TYP=5
22	2800	OTTA	20	GRF	1230.0	1250.0	115.0	2.8	1.6		
	2800	OTTA	20	GRF	1450.0	1545.0	55.0	1.8	.9		
	2695	SGMR	20	GRF	1451.6	1458.8	22.0	19.0			QL=6 ST=2 TYP=2
23	2695	PENT	4	S/F	2322.0	2324.0	8.0	95.0	45.0		
	2695	LEAR	47	GB	2322.1	2324.1	6.7	99.0			QL=6 ST=2 TYP=5
	8800	LEAR	47	GB	2322.3	2324.1	10.3	72.0			QL=3 ST=3 TYP=5
	8800	PALE	47	GB	2322.6	2324.1	10.9	99.0			QL=6 ST=2 TYP=5
	2695	PENT	29	PBI	2330.0	2330.0	100.0	7.0	3.3		
24	2800	OTTA	20	GRF	1750.0	1820.0	85.0	1.6	1.2		
	8800	SGMR	47	GB	1755.3	1755.6	.5	63.0			QL=6 ST=2 TYP=5
25	2800	OTTA	20	GRF	1355.0	1415.0	125.0	1.8			
	2800	OTTA	240	R	1900.0	2110.0	130.0	3.6	1.5		
26	2695	PENT	240	R	2225.0	2245.0	20.0	3.0	1.5		
27	2695	PENT	2	S/F	0106.9	0107.0	1.0	7.8			
	2695	LEAR	47	GB	0742.6	0742.8	3.9	68.0			QL=6 ST=2 TYP=5
	2695	ATHN	4	S/F	0743.1	0743.8	2.9	30.0			QL=6 ST=2 TYP=3
	2800	OTTA	27	RF	2110.0		230.0	1.6	1.4		
	2800	OTTA	24	R	2110.0	2113.0	3.0	1.6	.8		
	2800	OTTA	24P	R	2113.0		162.0	1.6			
	2695	PENT	26	FAL	2355.0	0100.0	65.0	-1.6	-.8		
29	2695	PENT	21	GRF	0050.0	0120.0	60.00	3.6			
	2695	PENT	1	S	0110.3	0113.0	7.0	7.8	4.2		
30	2800	OTTA	20	GRF	1915.0	1955.0	135.00	8.2			

Reports are received routinely from the following observatories:

ATHN = Athens
BERN = Berne
BORD = Bordeaux
CRIM = Crimea
DWIN = Dwingeloo
GORK = Gorky
HIRA = Hiraiso
HUAN = Huancayo
IRKU = Irkutsk
IZMI = IZMIRAN
KISV = Kislovodsk
KRAK = Krakow
LEAR = Learmonth
MANI = Manila
NAGO = Nagoya
NOBE = Nobeyama
ONDR = Ondrejov
OTTA = Ottawa
PALE = Palehua
PEKG = Peking
PENT = Penticton
POTS = Potsdam
SAOP = Sao Paulo
SGMR = Sagamore Hill
TORN = Torun
TYKW = Toyokawa
TRST = Trieste
UPIC = Upice
VORO = Voroshilov

Explanation of Type Code:

1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
33 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset of Noise Storm
44 Noise Storm In Progress
45 Complex
46 Complex F
47 Great Burst
48 Major

1A Simple 1A
3A Simple 2A
21A Simple 3A GRF
2A Simple 1AF
4A Simple 2AF
240 Rise only
240F Rise only F
24P Post Rise
24PF Post Rise F
16A Fall A
260 Fall Only
26F Fall F
27F Rise and Fall F
27AF Rise and Fall AF
31A Post Burst Decrease A
32A Absorption A
46F Complex F

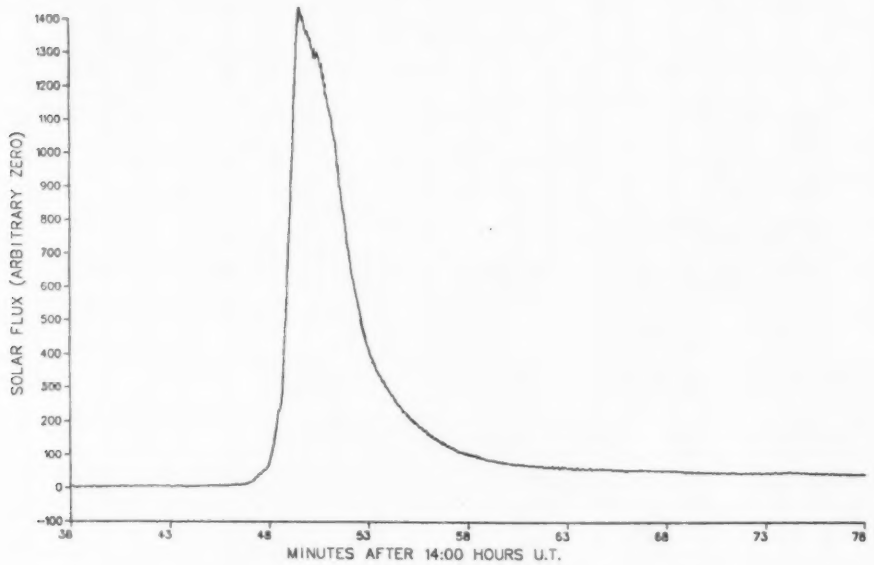
Remarks:

QL = Quality (1=poor to 6=excellent)
ST = Status (1=real time; 2=final; 3=correction; 4=deletion)
TYP= Type (1=noise storm;2=rise in base level;3=minor;4=group;5=major;6=major plus;7=Castelli U-type burst)

SELECTED SOLAR NOISE BURSTS

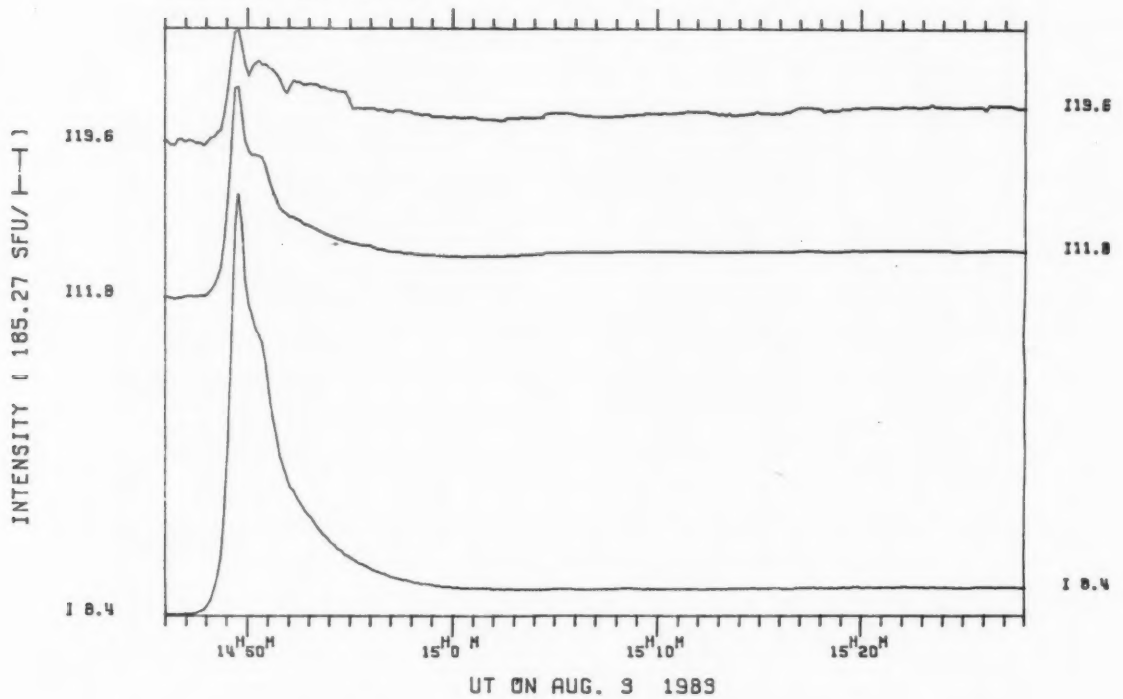
AUGUST 03, 1983

SELECTED 2800 MHz SOLAR NOISE BURST
A.R.O. OTTAWA, ONT.
CANADA



INSTITUTE OF APPLIED PHYSICS, UNIVERSITY OF BERN, SWITZERLAND

INTEGRATION TIME= 10000 MS



INFERRED IP MAGNETIC FIELD

BARTELS ROTATION	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
2030	FEB 4	□ -	□ -	□ -	TA -	TA -	TA -	TA -	- -	□ -	TA -	- -	- -	- -	- -	- -	TA -	- -	- -	□ -	□ -	- -	- -	- -	TA -	- -	- -	TA -
2031	MAR 3	- -	- -	- -	□ -	□ -	TA -	TA -	- -	TA -	TA -	□ -	TA -	□ -	□ -	TA -	- -	- -	- -	TA -	TA -	- -	- -	- -	- -	- -	- -	AT -
2032	MAR 30	□ -	TA -	□ -	TA -	□ -	□ -	- -	- -	- -	□ -	TA -	□ -	□ -	□ -	□ -	- -	AT -	TA -	□ -	TA -	□ -	□ -	- -	- -	- -	- -	- -
2033	APR 26	- -	AT -	□ -	□ -	□ -	□ -	□ -	TA -	TA -	□ -	□ -	□ -	□ -	□ -	□ -	- -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	AT -	AT -	□ -
2034	MAY 23	□ -	□ -	□ -	AT -	□ -	TA -	□ -	□ -	□ -	□ -	□ -	AT -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	TA -
2035	JUN 19	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	TA -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	TA -	□ -	□ -	□ -	□ -
2036	JUL 16	□ -	□ -	□ -	□ -	□ -	TA -	□ -	□ -	□ -	□ -	AT -	□ -	□ -	□ -	AT -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -
2037	AUG 12	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	TA -	□ -	□ -	TA -	TA -	TA -	□ -	□ -	□ -	TA -	□ -	TA -	□ -	□ -	□ -	□ -	□ -	□ -	□ -
2038	SEP 8	TA -	AT -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	TA -	□ -	AT -	□ -	□ -	□ -	□ -	□ -	TA -	□ -	□ -	□ -	□ -	□ -
2039	OCT 5	□ -	AT -	□ -	AT -	□ -	□ -	□ -	□ -	□ -	AT -	TA -	□ -	□ -	□ -	□ -	AT -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	TA -	□ -	□ -	□ -
2040	NOV 1	AT -	□ -	□ -	□ -	AT -	□ -	□ -	□ -	□ -	AT -	□ -	□ -	□ -	□ -	AT -	□ -	□ -	TA -	□ -	□ -	□ -	□ -	□ -	TA -	AT -	□ -	□ -
2041	NOV 28	TA -	□ -	- -	- -	□ -	AT -	□ -	□ -	□ -	□ -	□ -	□ -	TA -	TA -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	AT -	AT -	□ -	□ -	□ -	□ -
2042	DEC 25	□ -	□ -	AT -	AT -	□ -	□ -	□ -	TA -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	TA -	TA -	□ -	□ -	□ -	AT -	□ -	□ -	□ -	□ -
2043	1983 JAN 21	- -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	TA -	□ -	□ -	□ -	□ -	TA -	AT -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -
2044	FEB 17	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	TA -	□ -	□ -	TA -	□ -	TA -	TA -	□ -	AT -	TA -	TA -	□ -	TA -	□ -	□ -	□ -	□ -
2045	MAR 16	- -	- -	AT -	AT -	AT -	□ -	□ -	□ -	□ -	□ -	AT -	□ -	□ -	□ -	□ -	AT -	□ -	TA -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	□ -	- -
2046	APR 12	□ -	□ -	TA -	□ -	□ -	□ -	□ -	- -	- -	□ -	□ -	□ -	TA -	□ -	□ -	□ -	AT -	TA -	AT -	□ -	□ -	□ -	□ -	AT -	AT -	AT -	□ -
2047	MAY 9	□ -	□ -	AT -	□ -	□ -	AT -	□ -	□ -	□ -	AT -	AT -	□ -	□ -	□ -	□ -	□ -	- -	AT -	□ -	□ -	□ -	□ -	□ -	AT -	□ -	□ -	AT -
2048	JUN 5	- -	- -	AT -	□ -	AT -	□ -	AT -	□ -	□ -	AT -	AT -	□ -	□ -	AT -	AT -	AT -	□ -	□ -	AT -	□ -	□ -	□ -	AT -	□ -	□ -	□ -	□ -
2049	JUL 2	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	□ -	□ -	AT -	□ -	□ -	AT -	□ -	□ -	AT -	□ -	AT -	□ -	□ -	□ -	□ -	□ -
2050	JUL 29	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	□ -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	AT -	AT -	□ -	□ -
2051	AUG 25	- -	- -	- -	AT -	- -	- -	□ -																				

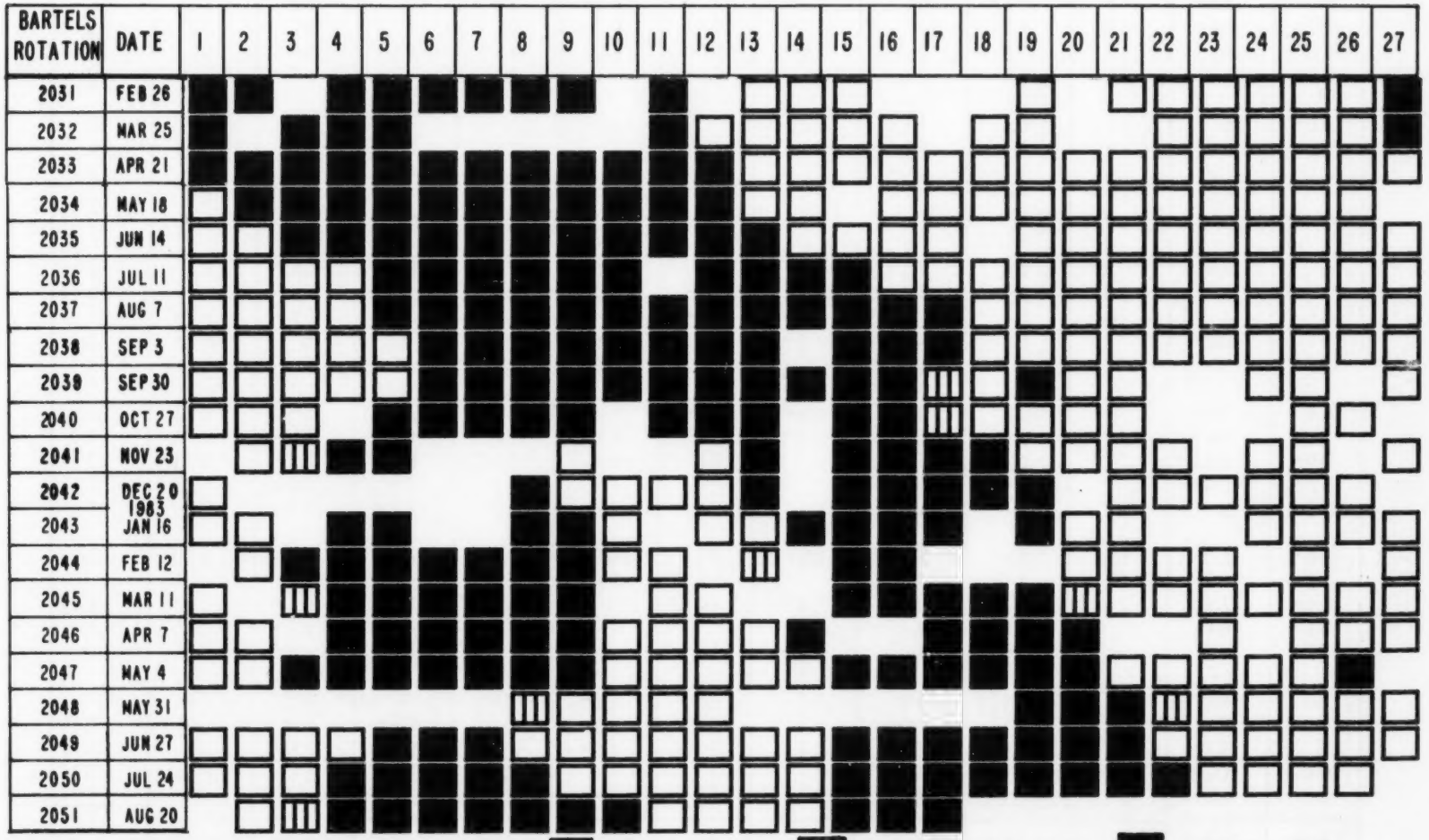
□ = definitely towards the sun □ = definitely away from the sun

T = towards the sun A = away from the sun * = effect doubtful or not discernible - = missing data

The table shows daily inferences of the polarity of the interplanetary magnetic field. The first half of the day is based principally on magnetograms produced by the magnetometer at the Vostok Antarctic Station of the USSR. The magnetometer of the U.S. Air Weather Service now operated at Thule by the Danish Meteorological Institute is used for the second half of the day. The Thule magnetometer ceased operating in August 1981.

second half of the day. The Thule magnetometer ceased operating in August 1981.

STANFORD MEAN SOLAR MAGNETIC FIELD



POLARITY OF THE MEAN SOLAR MAGNETIC FIELD: □ = FIELD >2μT, ▥ = -2μT ≤FIELD ≤2μT, ■ = FIELD <-2μT
No box visible indicates no data available for that day.

NOTE: Data are taken daily at 2000 UT. Dates given are not Bartels Rotation dates. These earlier dates correspond to the occurrence of phenomena on the Sun that affect the Earth during the given Bartels Rotation.

STANFORD MEAN SOLAR MAGNETIC FIELD (MICROTESLA)

	1982				1983							
day	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.
01	89	22	-31	42	-9	-81	.	25	69	.	-23	9
02	102	53	-15	.	.	.	.	38	65	.	-50	16
03	84	37	-18	.	-89	-8	11	52	52	.	-28	3
04	66	18	-38	10	-81	15	33	61	35	.	15	13
05	68	-6	.	-42	-73	45	38	63	12	.	44	20
06	55	-41	-63	.	-22	.	51	50	-3	.	51	22
07	30	-54	-61	-90	-2	.	.	29	-15	0	39	-12
08	-27	-76	-68	-64	.	54	65	21	-43	12	17	-49
09	-55	-90	.	-29	53	84	.	.	-51	30	33	-81
10	-74	-93	-54	-20	46	93	48	-15	-45	45	27	-91
11	-93	-96	-21	26	37	69	30	-44	-27	28	-4	-83
12	-124	-100	1	29	53	.	.	-48	-3	.	-60	-73
13	-125	-70	19	43	84	16	2	-43	10	.	-108	-60
14	-120	-35	34	28	84	-19	-25	-29	27	.	-120	-10
15	-112	-7	37	.	.	-22	-44	-11	31	.	-107	19
16	.	-1	52	8	39	-104	-62	9	10	.	-89	56
17	-49	4	.	57	10	-102	-27	16	5	.	-20	14
18	-28	-43	.	.	.	-67	-19	13	-9	-91	7	78
19	-14	55	.	64	-87	-37	-5	15	-69	-56	27	.
20	12	33	22	32	-119	-7	.	-11	-87	-28	41	.
21	40	.	33	.	.	24	19	.	-96	-1	97	8
22	44	.	.	.	.	27	15	.	-47	23	96	1
23	26	17	.	.	-25	.	.	-66	-11	53	82	-17
24	10	45	12	.	-3	-1	.	-59	6	72	25	-34
25	8	.	-1	.	31	.	-23	-34	36	101	9	-76
26	18	54	-31	.	.	-49	-34	-15	64	67	11	-78
27	36	55	-58	-31	31	-66	-42	.	101	23	-4	-36
28	72	34	.	6	3	.	-17	.	117	27	-35	-28
29	57	20	.	42	-14		-20	36	-12	33	-37	-12
30	52	.	.	59	-51		1	.	.	26	-39	7
31		-11		35	-91		18		.		-21	28

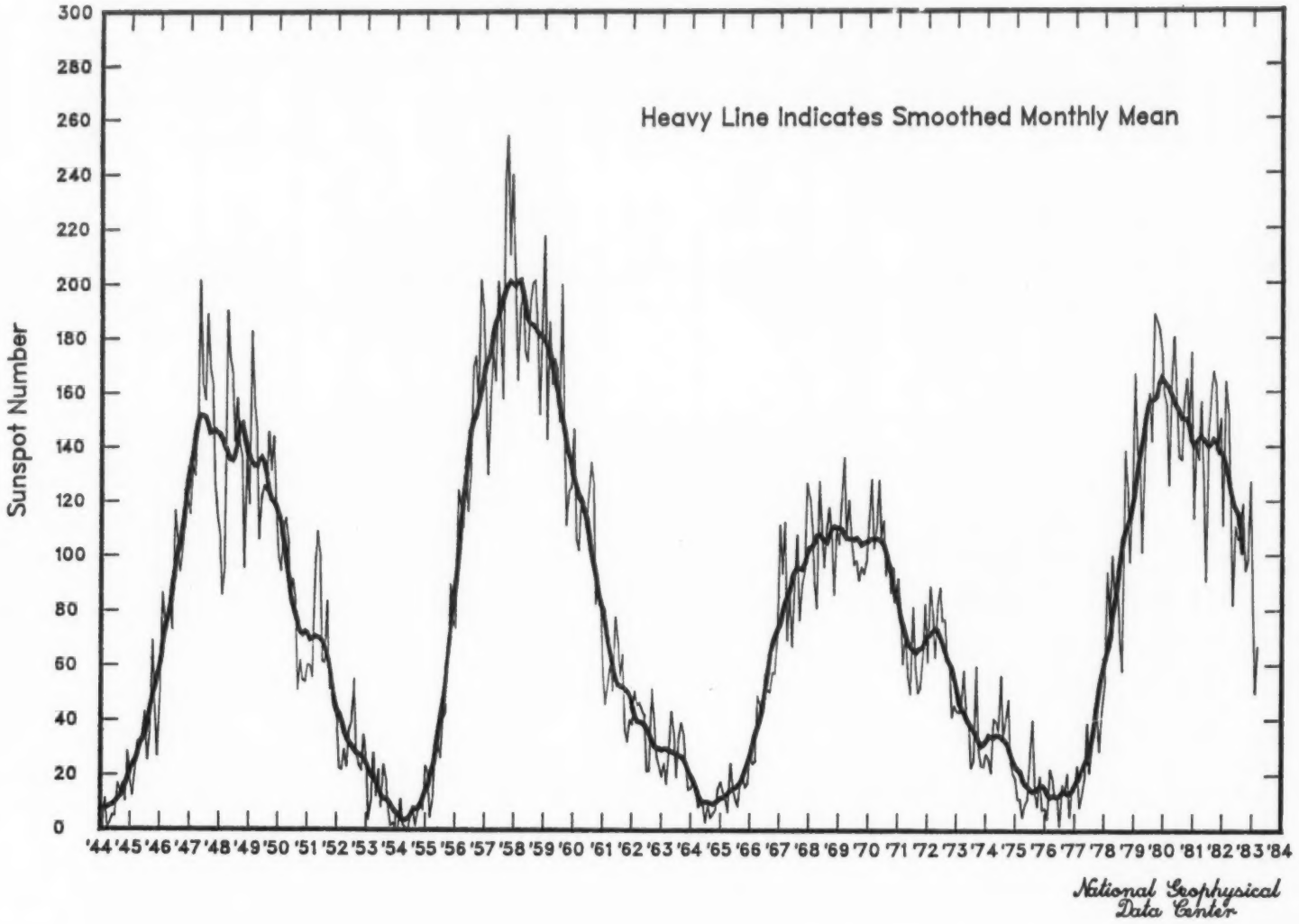
BOULDER GEOMAGNETIC SUBSTORM LOG

August 1983

DATE	ONSET TIME	DIR	COMMENTS
08/01			Field intermittently unsettled.
	0625	East	Weak substorm.
	1240		Weak substorm.
08/02			Field intermittently active.
	0050		Localized substorm vicinity of NAQ*.
	0550	East	Moderate substorm.
	1200	West	Moderate substorm.
	1810	West	
08/03			Field intermittently unsettled.
	1135	West	Weak substorm.
	1300	West	Weak substorm.
	1420	West	Weak substorm.
	1750		Polar cap substorm.
	2205		Polar cap substorm.
08/04			Field slightly unsettled.
08/05			Quiet day.
08/06			Field slightly unsettled after 1300 UT.
08/07			Field active after 2000 UT.
	2015		Polar cap substorm.
	2115		Polar cap substorm.
08/08			Magstorm conditions through 1200 UT, slightly unsettled balance of day.
08/09			Field intermittently unsettled with no distinctive substorm activity.
08/10			Field intermittently unsettled.
	0445	West	
	1040	West	
08/11			Field intermittently unsettled.
	1135	West	
08/12			Field active all day.
	0410	East	
	0700	West	Numerous injections follow through 1830 with varied responses along oval stations.
08/13			Field active through 1300 UT and unsettled balance of day.
	1020		Localized substorm College to Anchorage.
	1120	West	
08/14			Field unsettled all day.
	0125	East	Boulder in partial ring current sector.
	1325		Localized substorm vicinity College.
08/15			Field unsettled all day.
	0110	East	Weak substorm.
	1010	West	
	1125		Localized substorm College to Ft. Yukon.
	1430	West	Slow onset, several minor injections with recovery near 1845 UT.
08/16			Field slightly unsettled.
08/17			Field intermittently unsettled.
	0830		Weak substorm.
08/17	1020		Weak substorm.
08/18			Quiet day.
08/19	1100		Small positive impulse H-component Boulder and Honolulu.
	1255	West	Initial onset at College, several injections with recovery near 1800 UT.
08/20			Field intermittently unsettled.
	0325	East	Weak substorm.
	1155	West	Weak substorm.
08/21			Field intermittently active.
	0150	East	
	0605	Center	
	0910	West	Moderate substorm, initial onset at College.
	1110	West	Moderate substorm, initial onset at College.
08/22			Field intermittently unsettled.
	1030		Weak substorm.
	1055		Weak substorm vicinity College.
08/23			Field intermittently active.
	0405	East	Moderate substorm.
	0720	West	
	1040	West	
08/24			Field intermittently active.
	1005		Localized substorm at College.
	1035	West	Moderate substorm.
08/25			Field intermittently active.
	0105	East	
	0730	West	Moderate substorm.
	0950	West	Moderate substorm.
08/26			Field active through 1700 UT.
	0130	East	
	0425	East	
	0825	West	Initial onset at College, several injections with recovery near 1230 UT.
	1515	West	
08/27			Field intermittently unsettled with no significant substorm activity.
08/28			Field intermittently unsettled with no significant substorm activity.
08/29			Field unsettled after 0800 UT.
	0840		Weak substorm.
	0950		Weak substorm.
	1030		Weak substorm.
	1400		Weak substorm.
	2200		Polar cap substorm.
08/30			Field intermittently unsettled.
	0555	West	
	1110		Localized substorm at College.
08/31			Field unsettled all day.
	0210	East	
	0605	West	
	1555	West	Moderate substorm.

* Note: Narsarssuaq became operational on 19 April 1983. For convenience, it will be identified by the call letters NAQ.

MONTHLY MEAN SUNSPOT NUMBERS
January 1944 – March 1983



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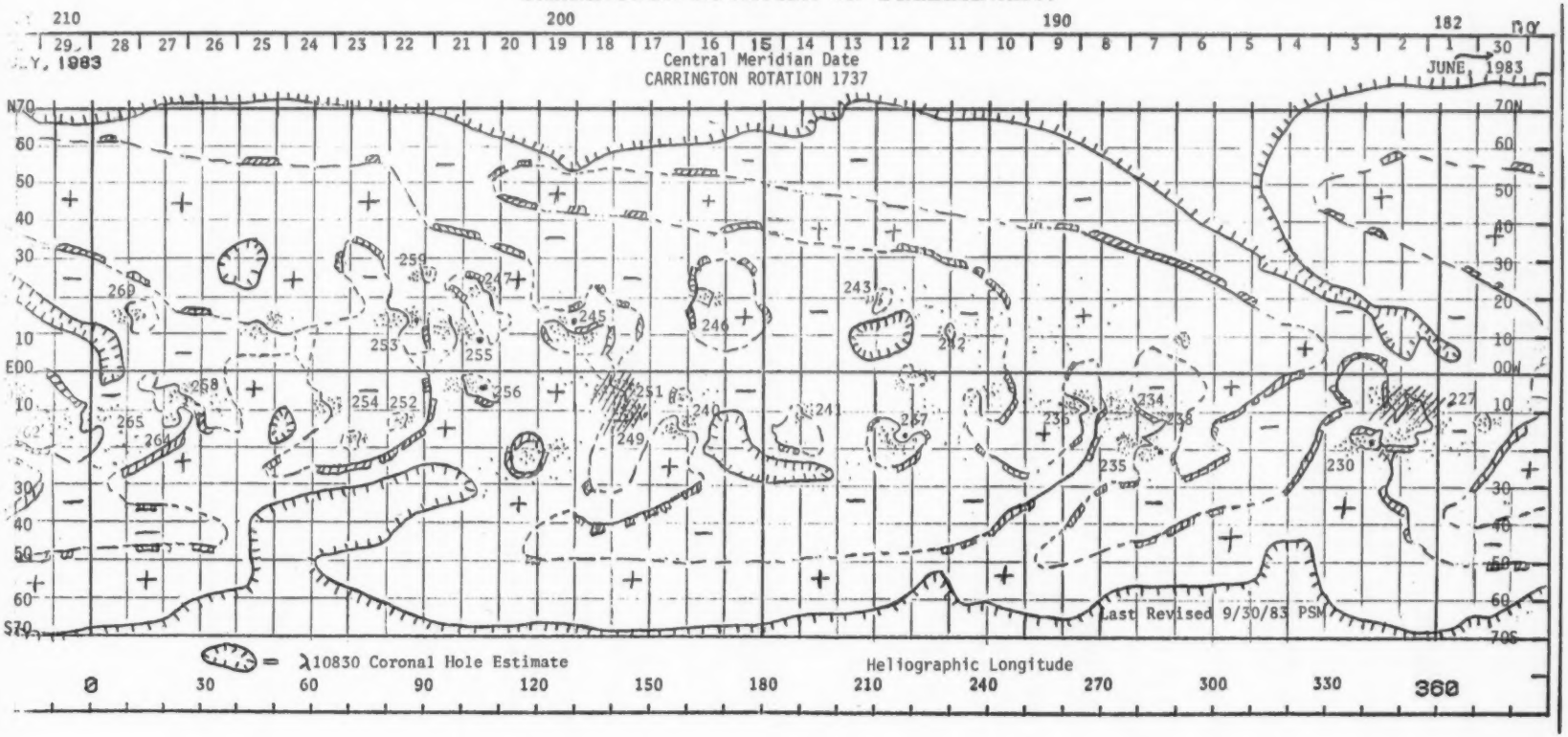
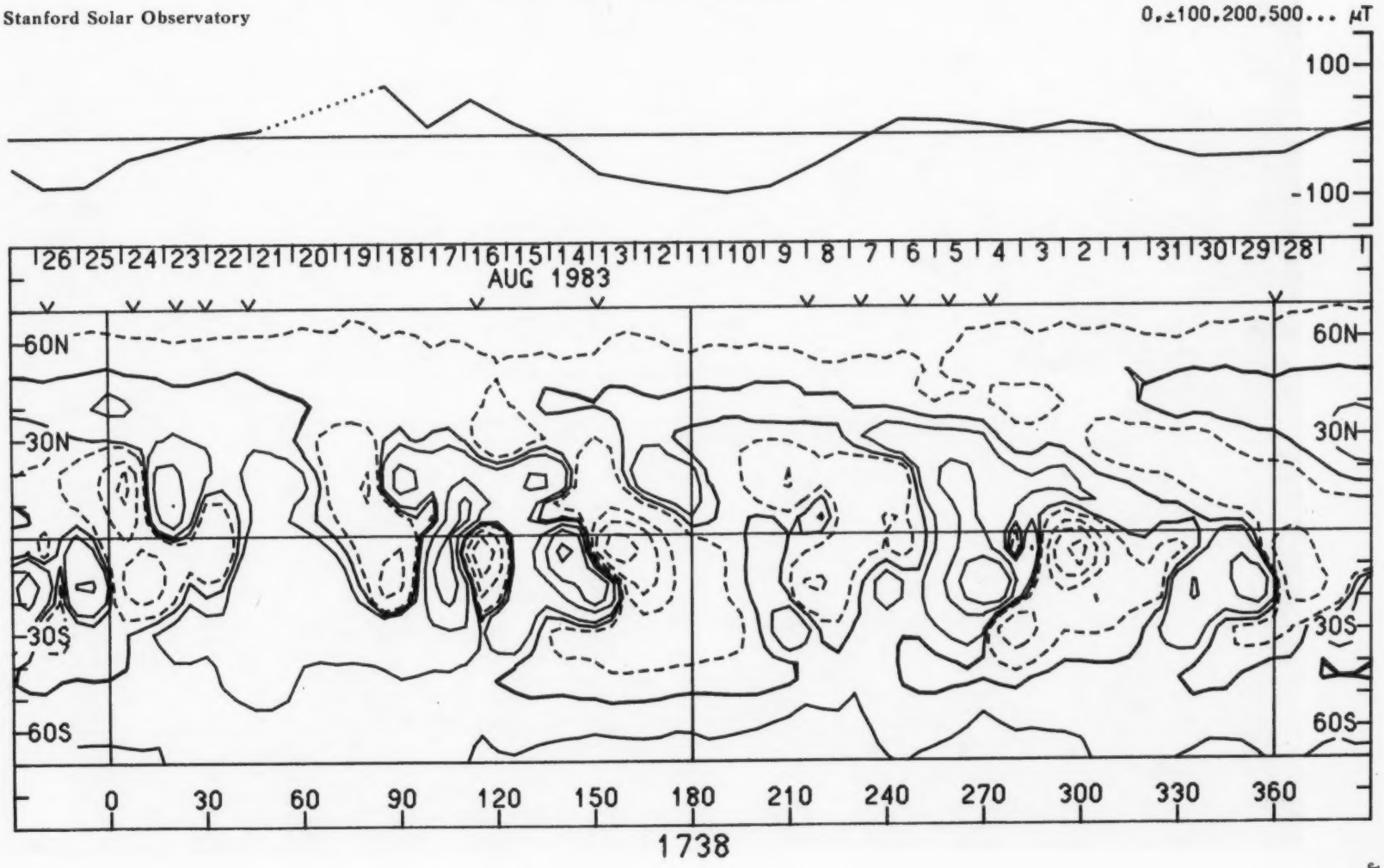
CARRINGTON ROTATION 1737 (PRELIMINARY)



SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTON ROTATION 1738

Stanford Solar Observatory

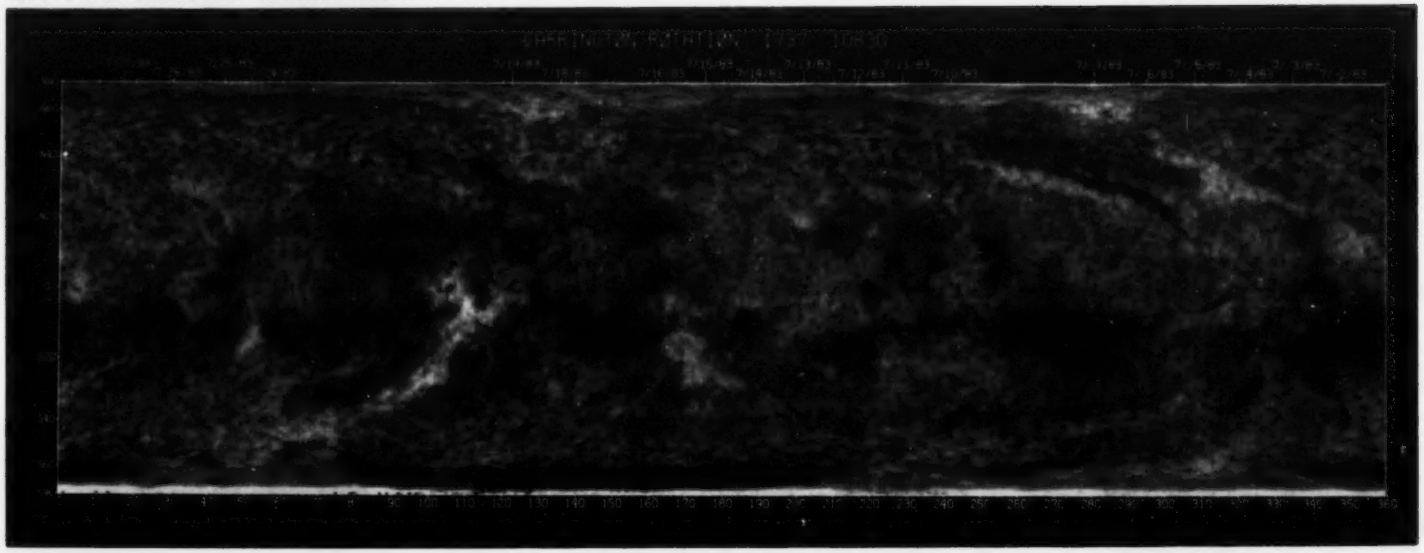


41
Jul 83

KPNO SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTON ROTATION 1737 POLARITY

HELIUM 10830Å SYNOPTIC MAPS
CARRINGTON ROTATION 1737

KITT PEAK NATIONAL OBSERVATORY



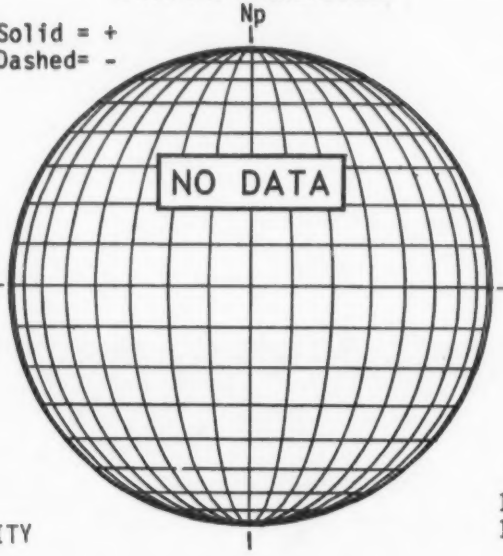
J U L 01, 1 9 8 3 (P=- 2.96, B_o=+2.84, L_o= 10.58)

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -

STANFORD MAGNETOGRAM

Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

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Dotted= -
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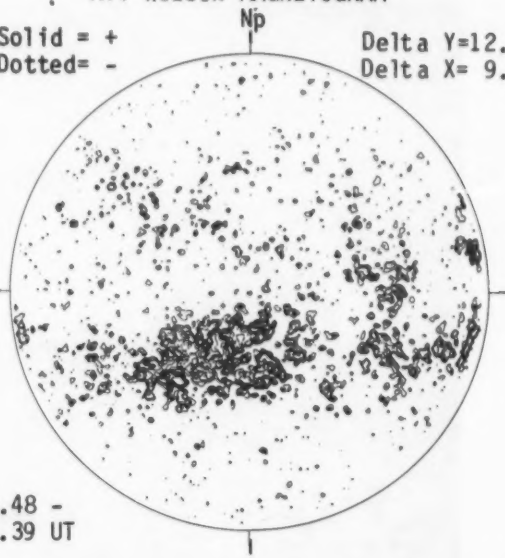
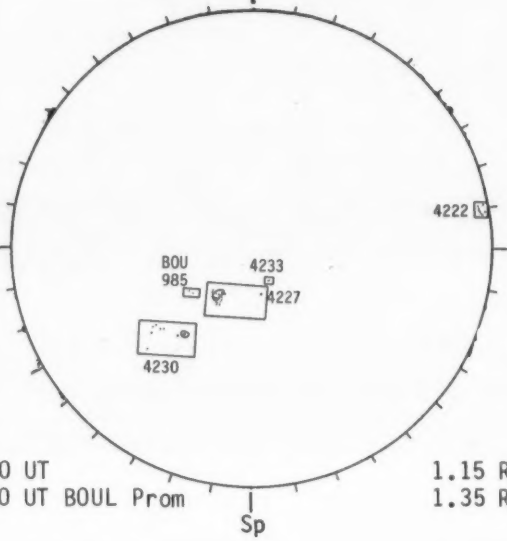
Delta X= 9.6

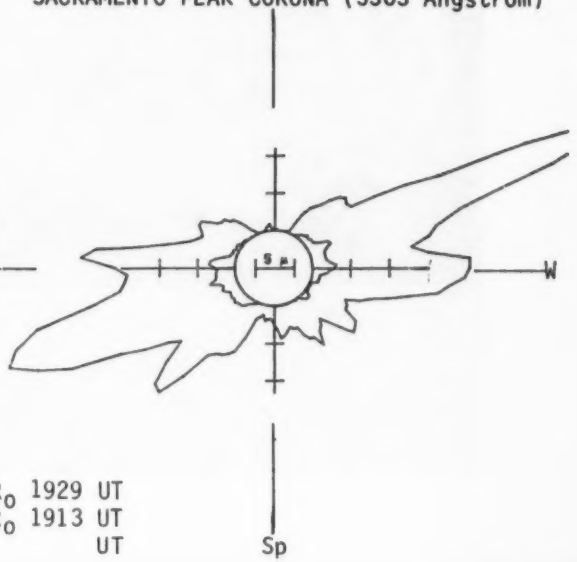


BOULDER H-ALPHA

BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



J U L 02, 1 9 8 3 (P=- 2.50, B_o=+2.95, L_o= 357.34)

Sp Sp UT Sp

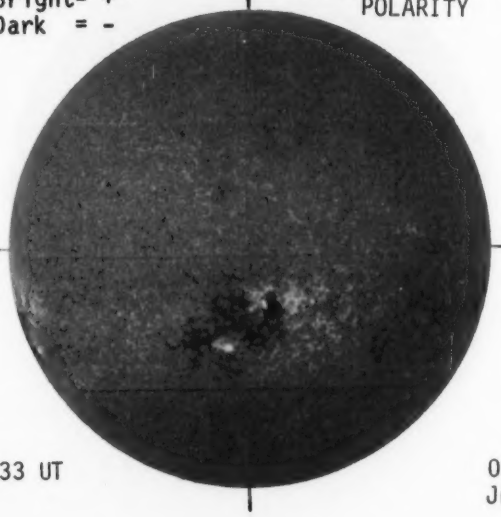
J U L 02, 1 9 8 3 (P=- 2.50, B_o=+2.95, L_o= 357.34)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -

REVERSED POLARITY



E

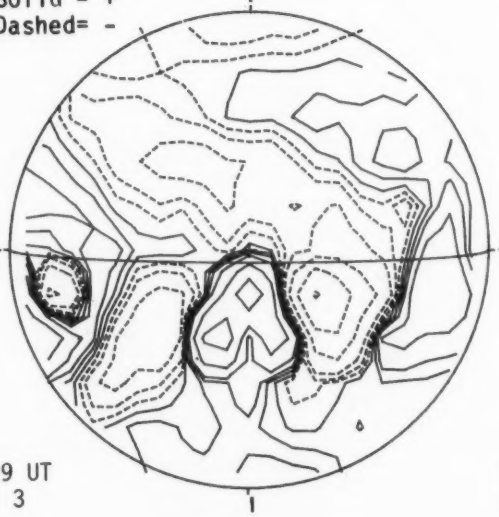
1533 UT

Sp

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -



0059 UT
Jul 3

Sp

MT. WILSON MAGNETOGRAM

Np

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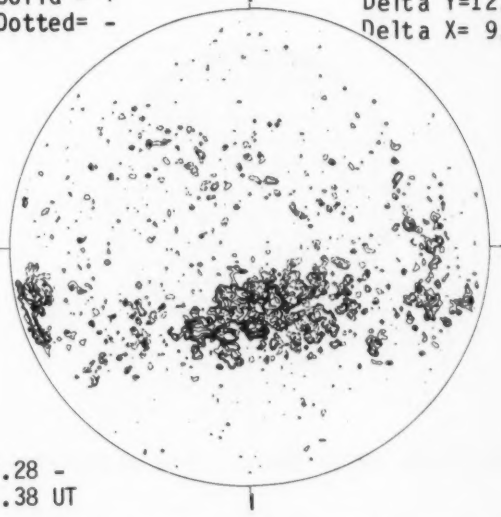
Dotted= -

Delta Y=12.6
Delta X= 9.6

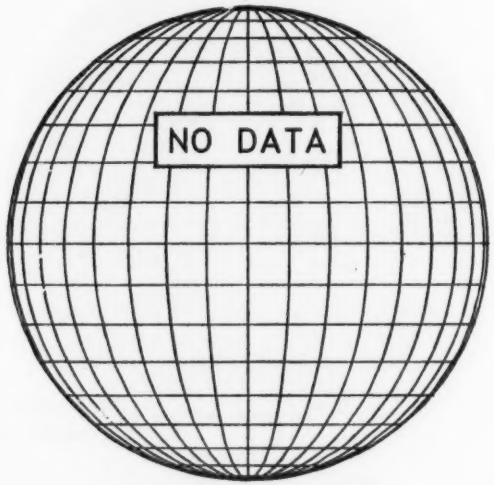


W

16.28 -
17.38 UT

Sp

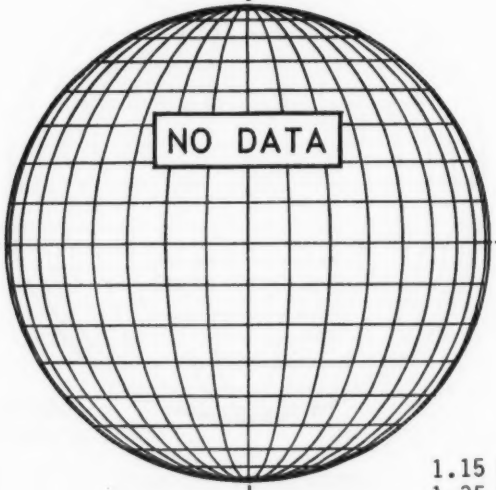
BOULDER H-ALPHA



E

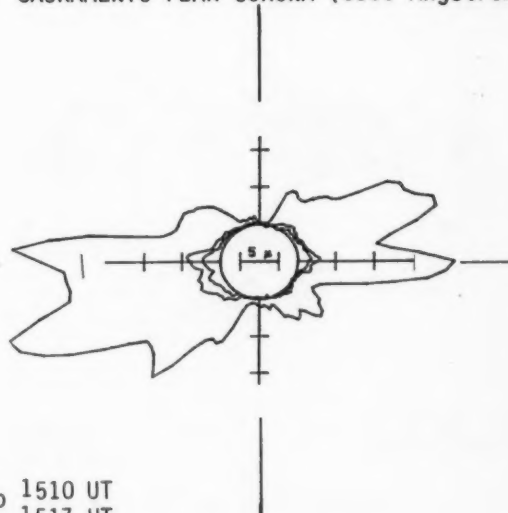
Sp

BOULDER SUNSPOTS



Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



W

1.15 R_o 1510 UT
1.35 R_o 1517 UT
1.45 R_o 1529 UT

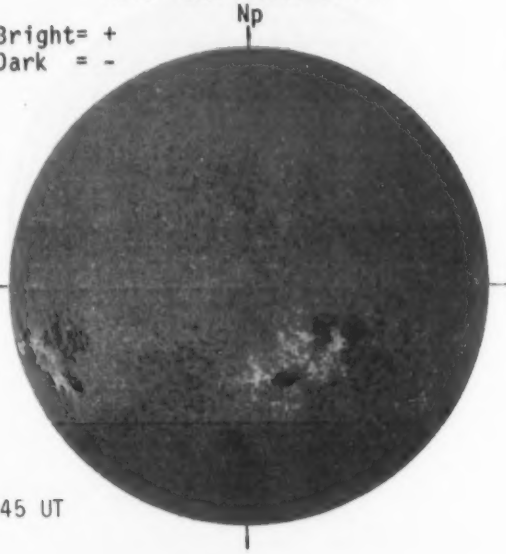
Sp

45
Jul 83

J U L 03, 1 9 8 3 (P=- 2.05, B_0=+3.06, L_0= 344.10)

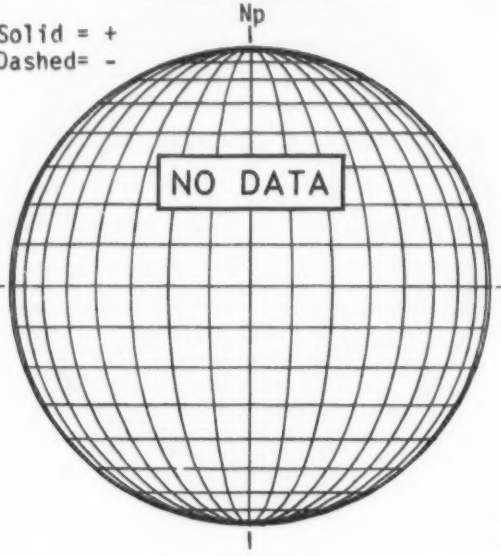
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



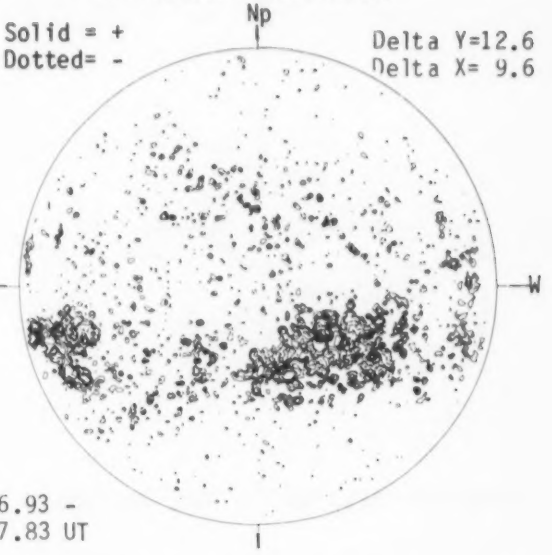
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

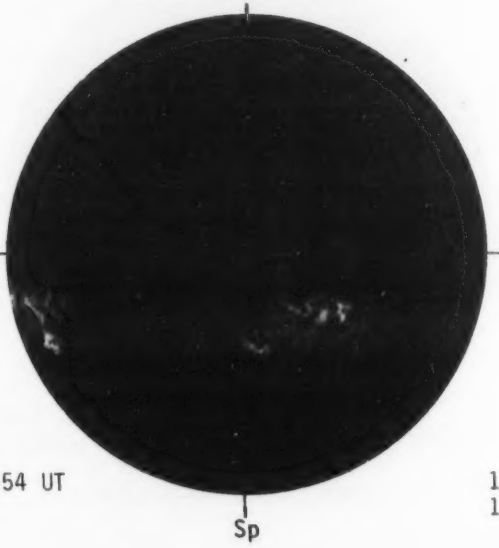


MT. WILSON MAGNETOGRAM

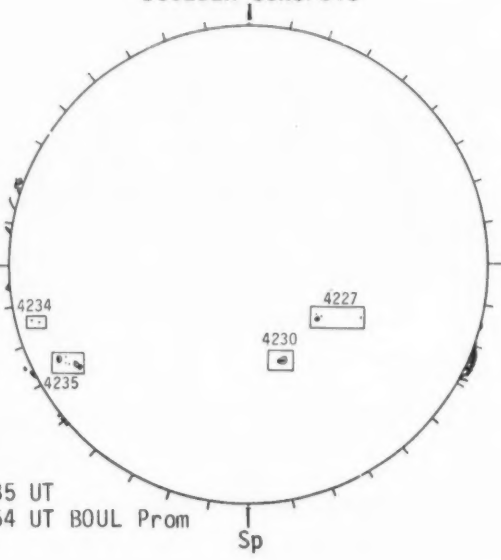
Solid = +
Dotted= -



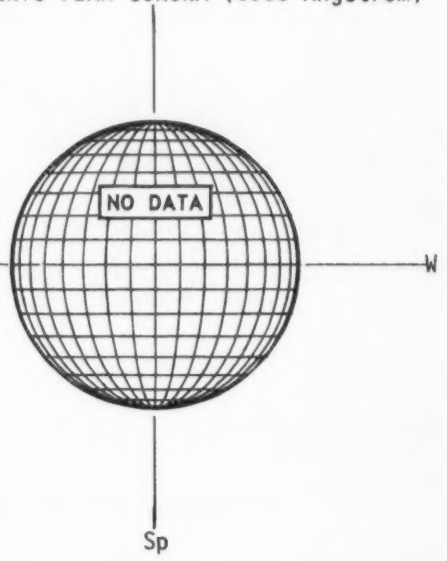
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



J U L 04, 1 9 8 3 (P=- 1.60, B_0=+3.17, L_0= 330.87)

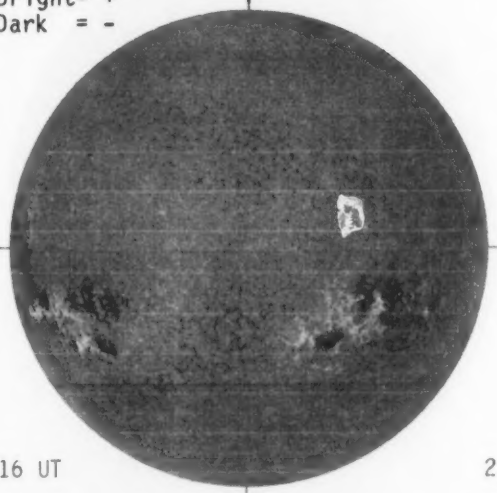
Sp Sp Sp

J U L 04, 1 9 8 3 (P=- 1.60, B_o=+3.17, L_o= 330.87)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -



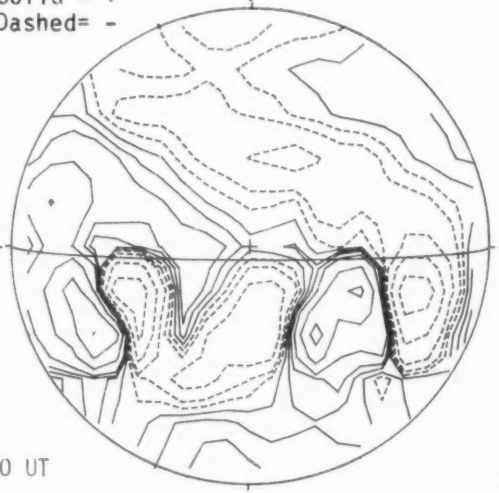
E

1416 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -



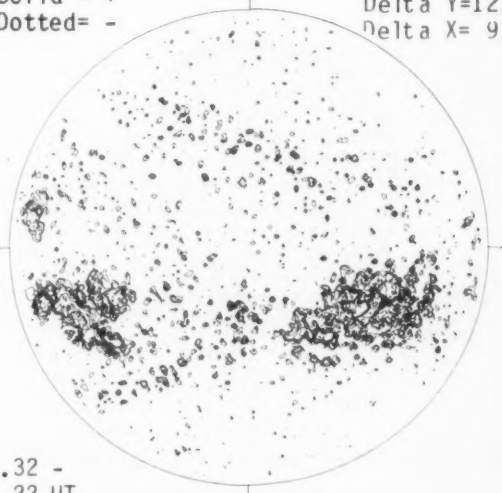
2330 UT

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

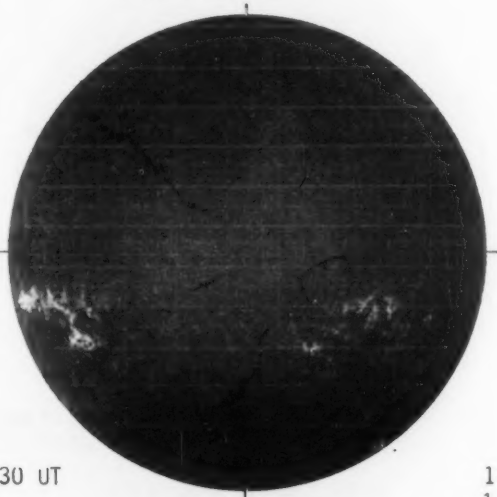
Delta Y=12.6
Delta X= 9.6



W

16.32 -
17.22 UT

BOULDER H-ALPHA

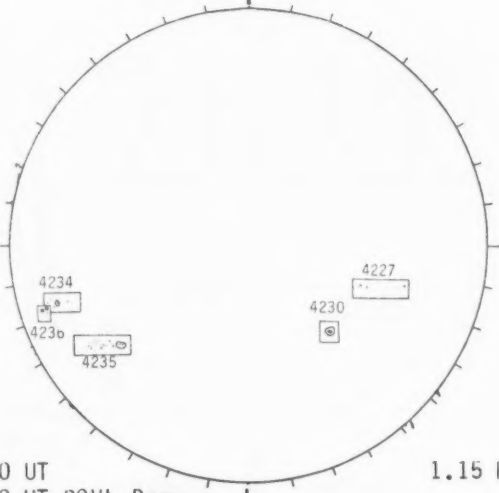


E

9430 UT

Sp

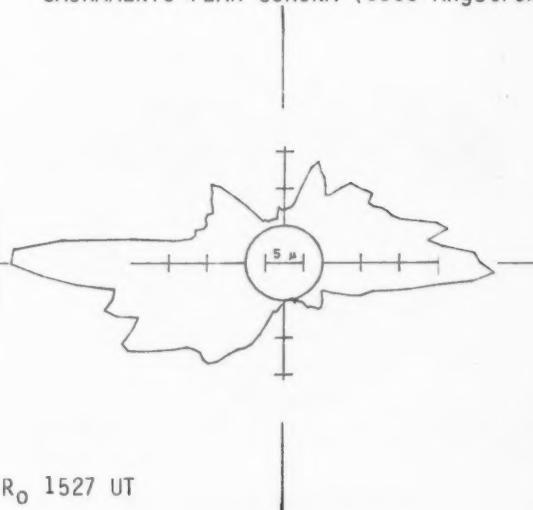
BOULDER SUNSPOTS



1300 UT
1430 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



W

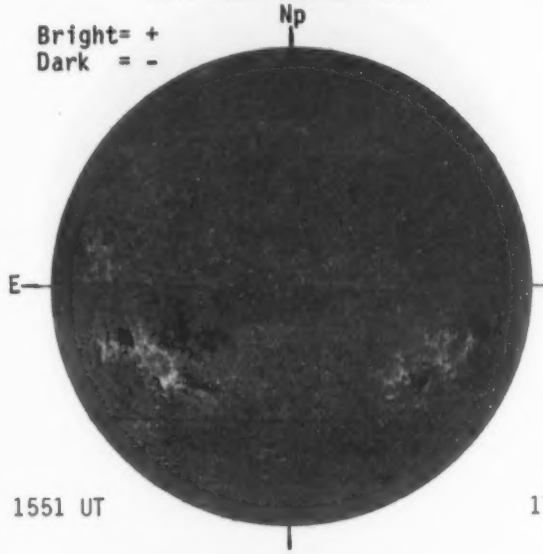
1.15 R_o 1527 UT

Sp

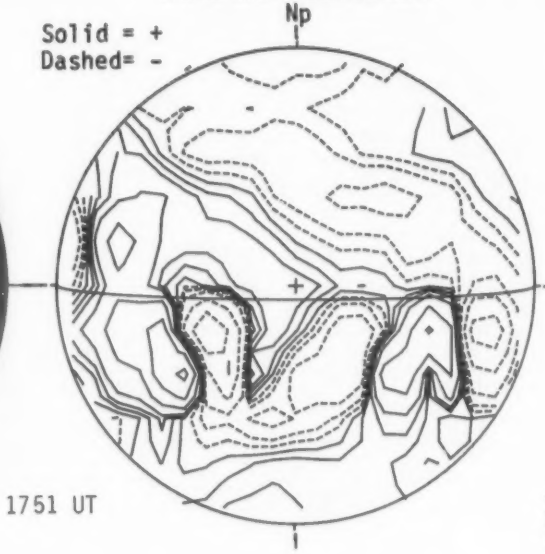
47
Jul 83

J U L 05, 1 9 8 3 (P=- 1.14, B_o=+3.27, L_o= 317.63)

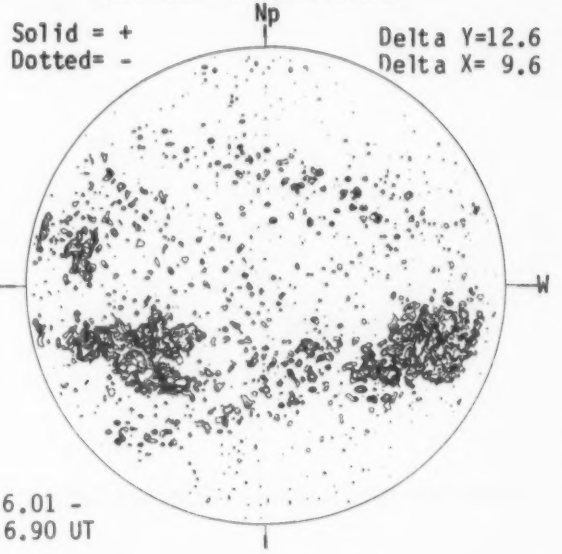
KITT PEAK MAGNETOGRAM



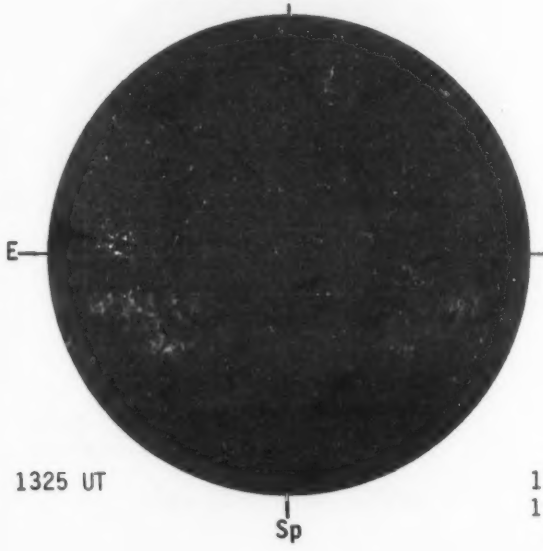
STANFORD MAGNETOGRAM



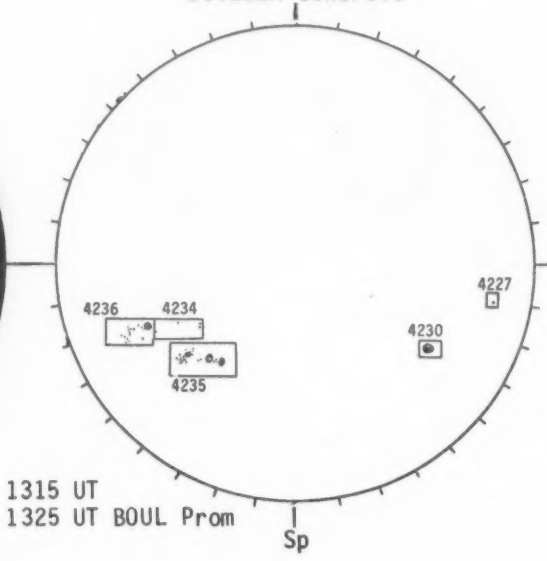
MT. WILSON MAGNETOGRAM



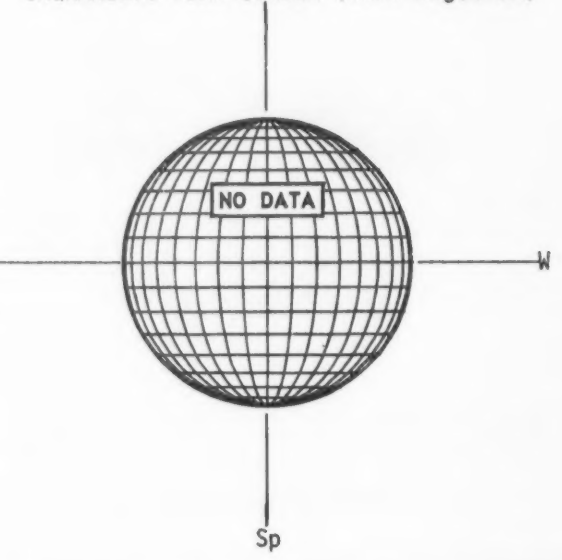
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

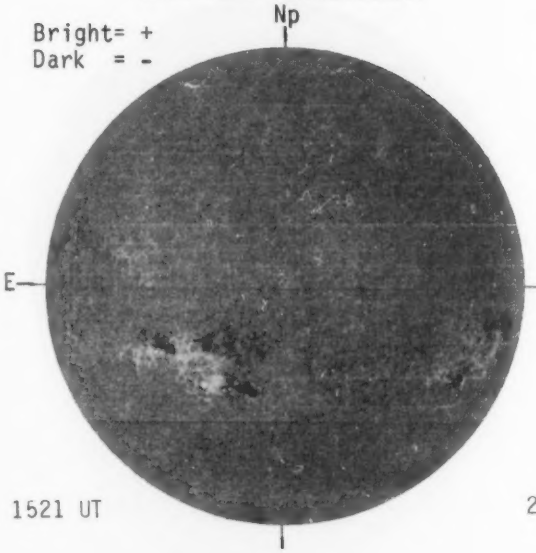


J U L 06, 1 9 8 3 (P=- 0.69, B_o=+3.38, L_o= 304.40)

J U L 06, 1 9 8 3 (P=- 0.69, B_o=+3.38, L_o= 304.40)

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



1521 UT

STANFORD MAGNETOGRAM

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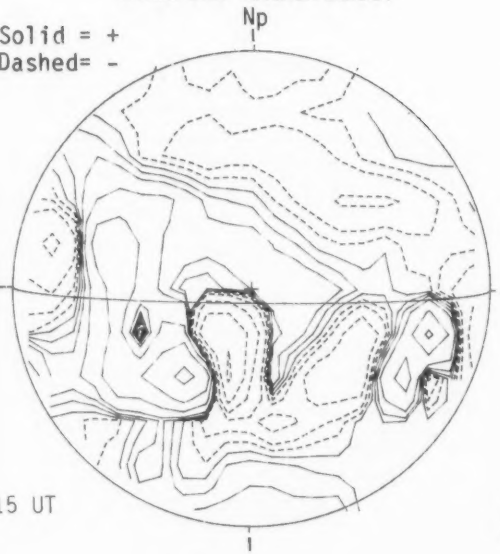
Dashed= -



2015 UT

MT. WILSON MAGNETOGRAM

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Dotted= -

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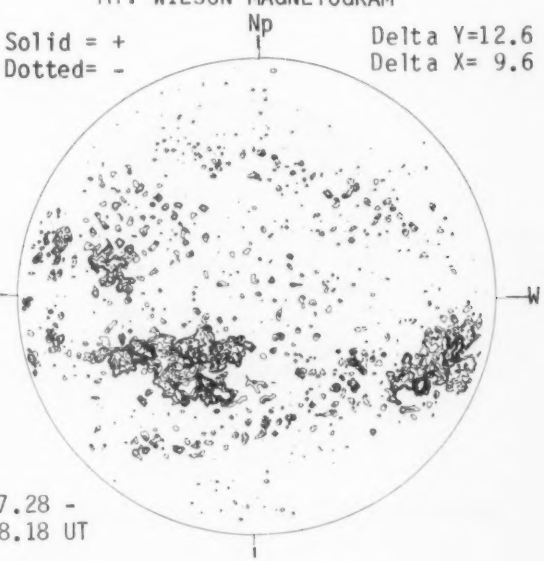
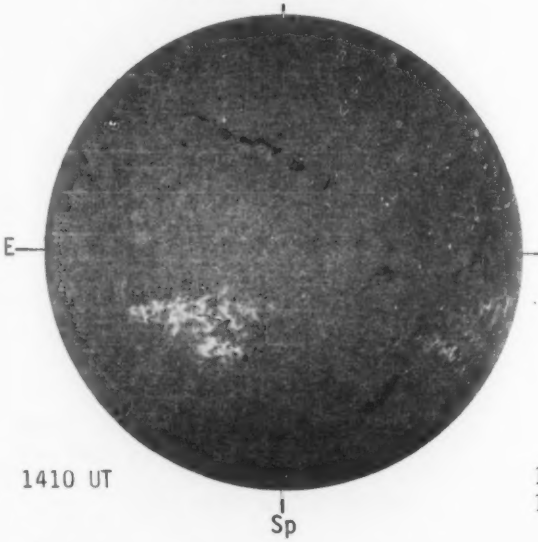
Delta X= 9.6



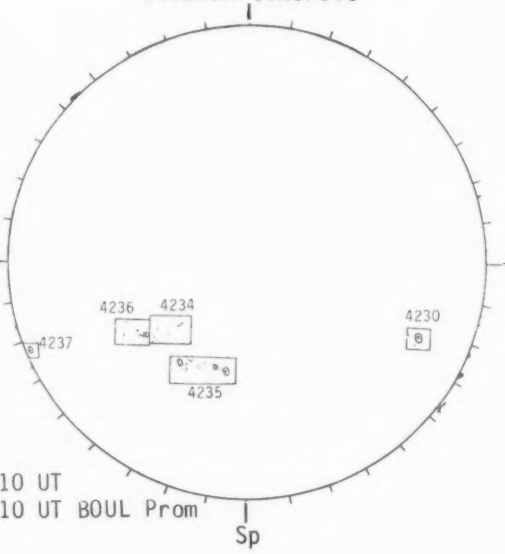
17.28 -
18.18 UT

BOULDER H-ALPHA



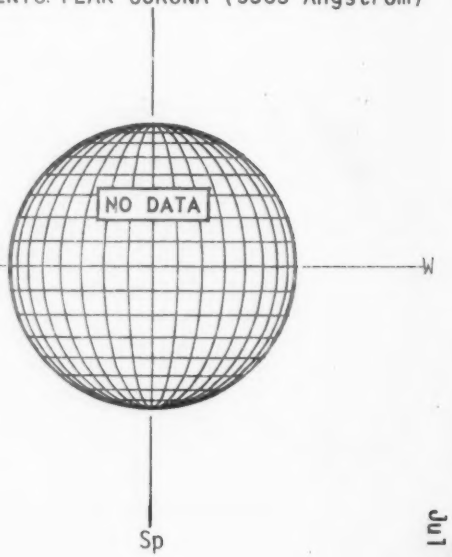
1410 UT

BOULDER SUNSPOTS



1410 UT
1410 UT BOUL Prom

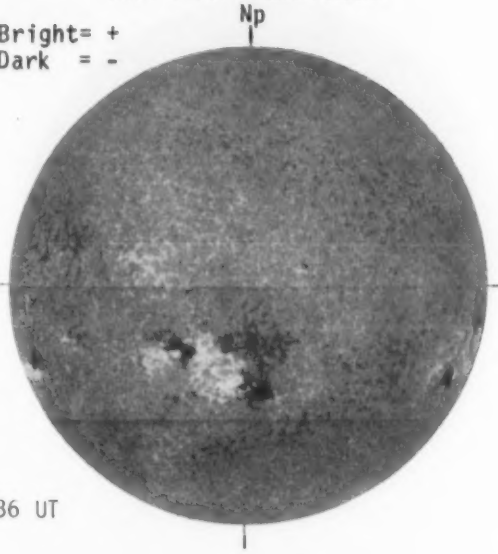
SACRAMENTO PEAK CORONA (5303 Angstrom)



J U L 07, 1 9 8 3 (P=- 0.23, B_0=+3.49, L_0= 291.16)

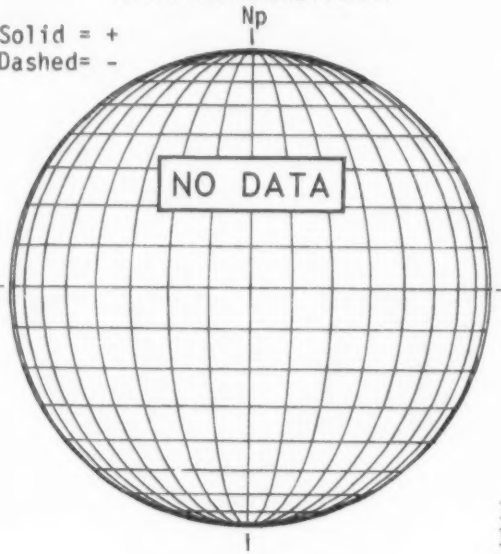
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



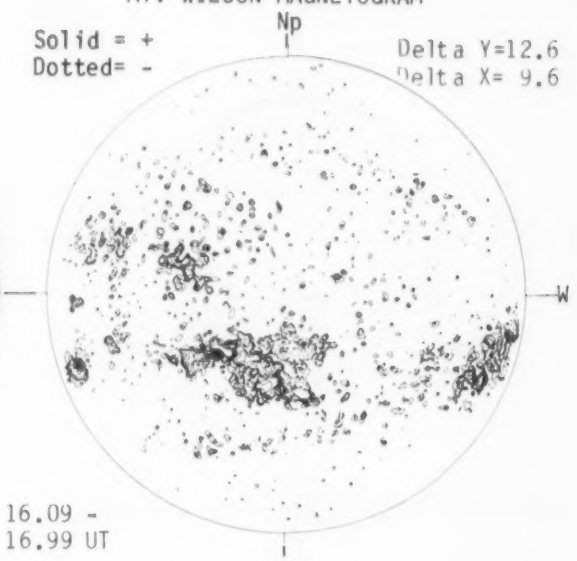
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

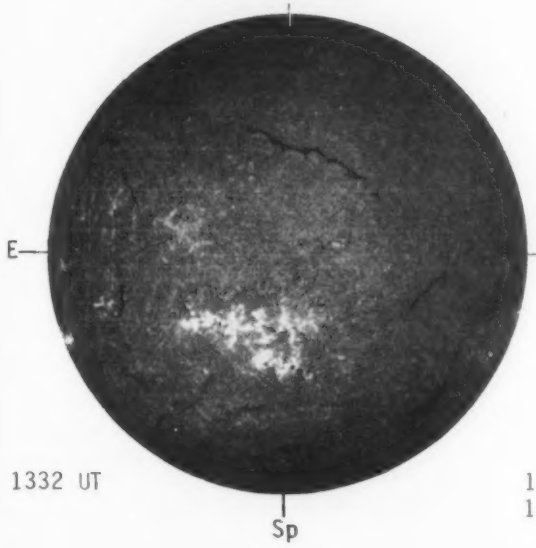


MT. WILSON MAGNETOGRAM

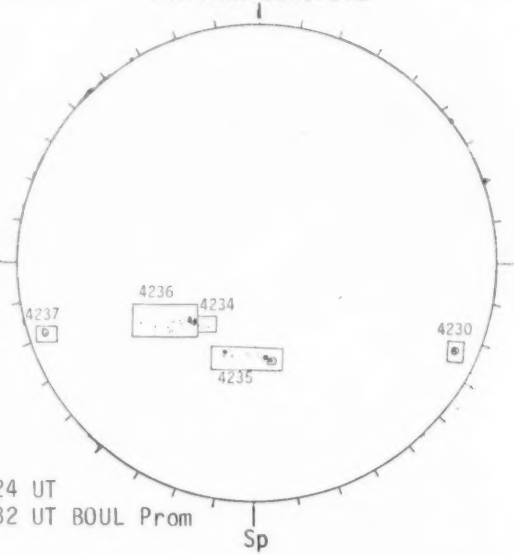
Solid = +
Dotted= -



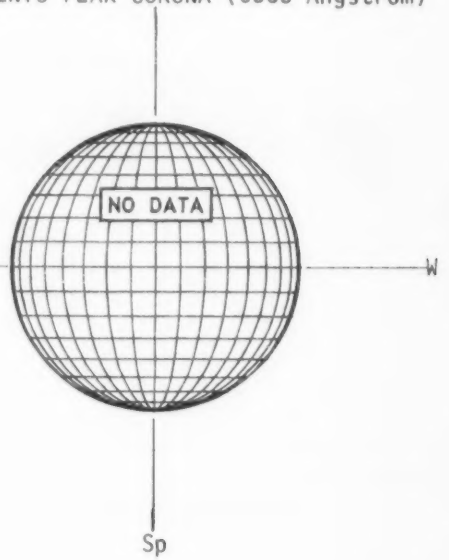
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



J U L 08, 1 9 8 3 (P=+ 0.22, B_0=+3.59, L_0= 277.93)

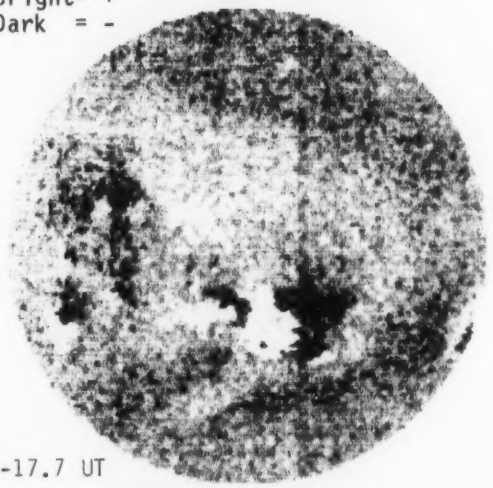
Sp Sp Sp

J U L 08, 1 9 8 3 (P=+ 0.22, B_o=+3.59, L_o= 277.93)

MT. WILSON MAGNETOGRAM

Np

Bright= +
Dark = -



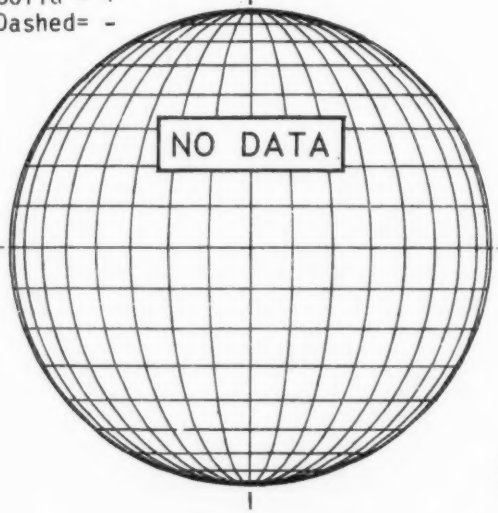
E-

16.8-17.7 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -

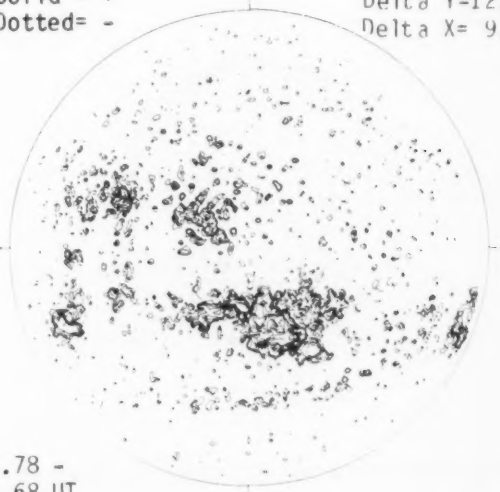


MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

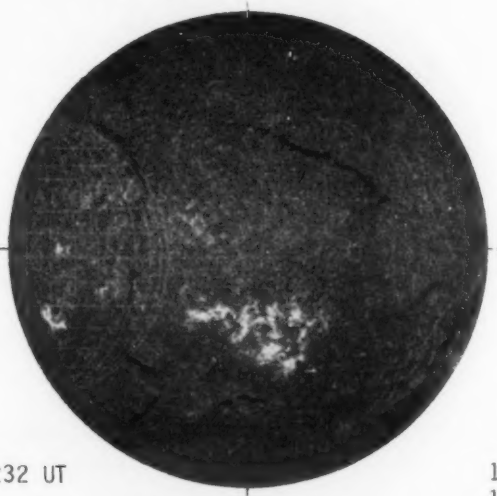
Delta Y=12.6
Delta X= 9.6



-W

16.78 -
17.68 UT

BOULDER H-ALPHA

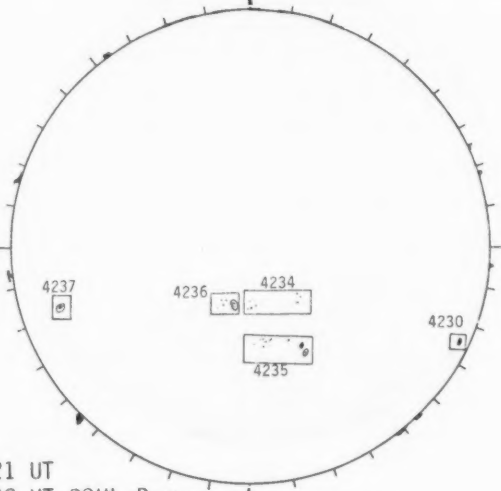


E

1232 UT

Sp

BOULDER SUNSPOTS



1221 UT
1232 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)

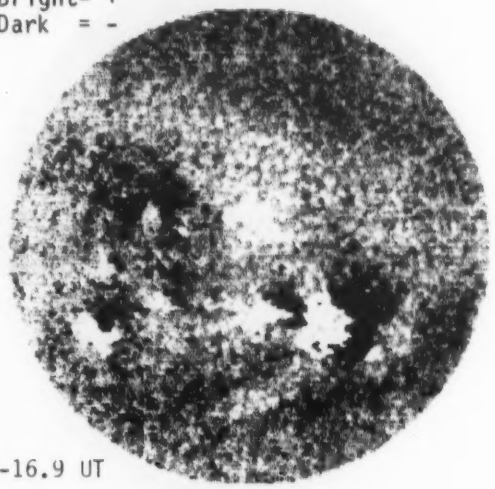
-W

Sp

J U L 09, 1 9 8 3 (P=+ 0.67, B_o=+3.70, L_o= 264.69)

MT. WILSON MAGNETOGRAM

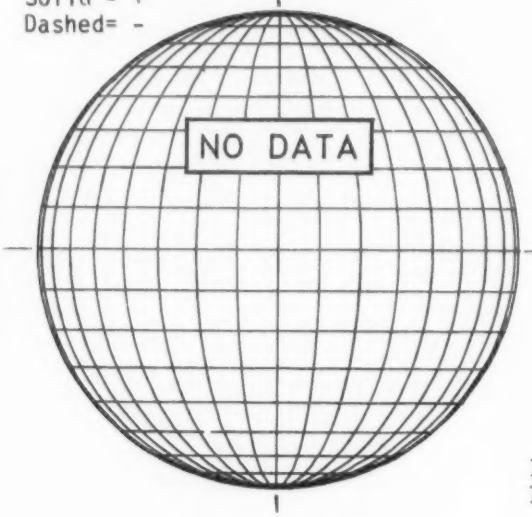
Bright= +
Dark = -



16.0-16.9 UT

STANFORD MAGNETOGRAM

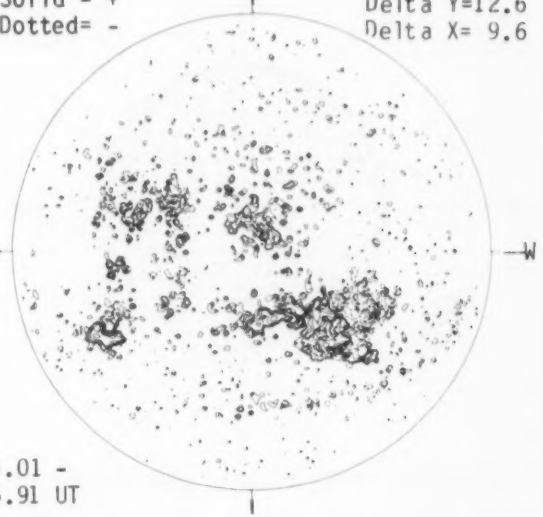
Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

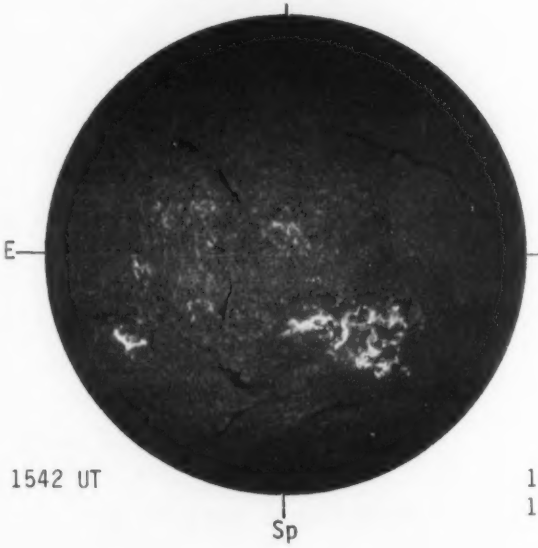
Solid = +
Dotted= -

Delta Y=12.6
Delta X= 9.6



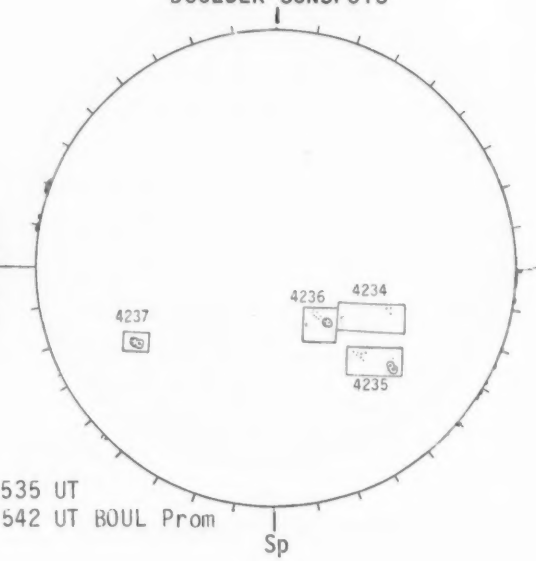
16.01 -
16.91 UT

BOULDER H-ALPHA



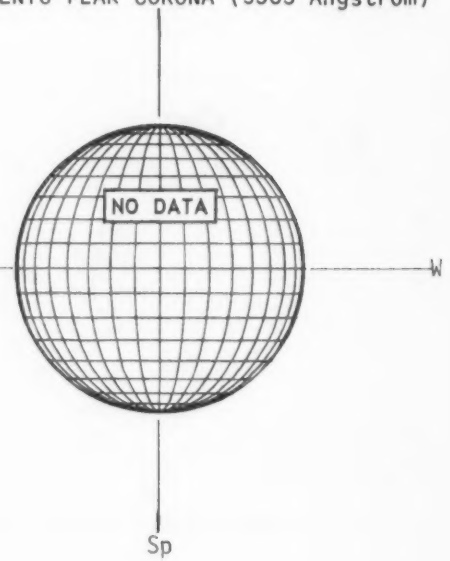
1542 UT

BOULDER SUNSPOTS



1535 UT
1542 UT BOUL Prom

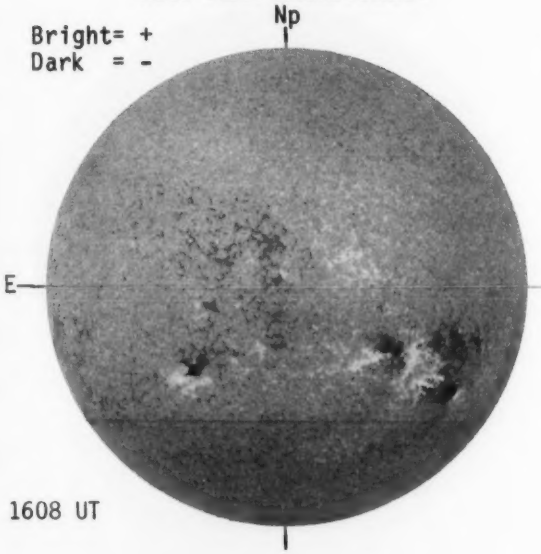
SACRAMENTO PEAK CORONA (5303 Angstrom)



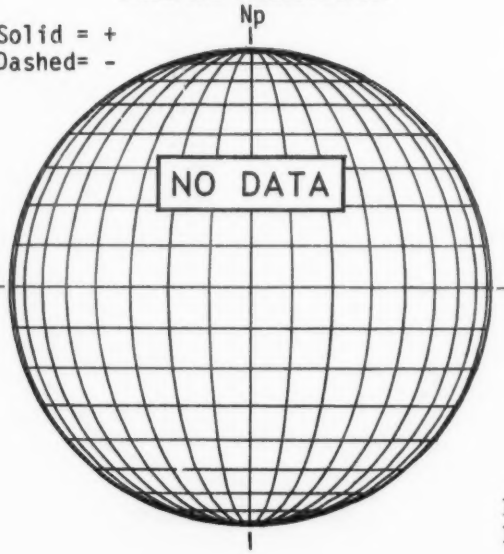
J U L 10, 1 9 8 3 (P=+ 1.13, B_o=+3.80, L_o= 251.46)

J U L 10, 1 9 8 3 (P=+ 1.13, B_0=+3.80, L_0= 251.46)

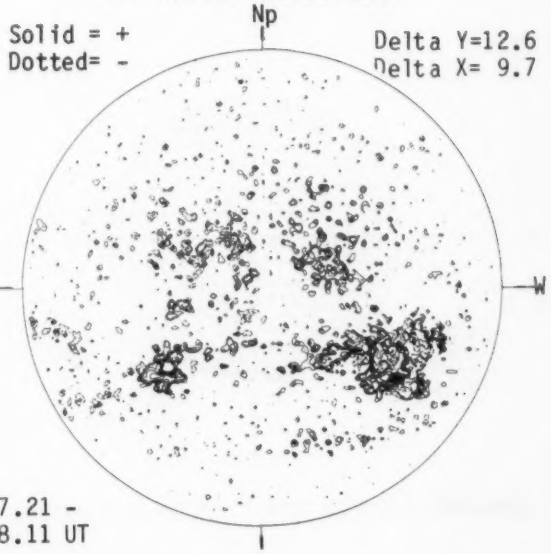
KITT PEAK MAGNETOGRAM



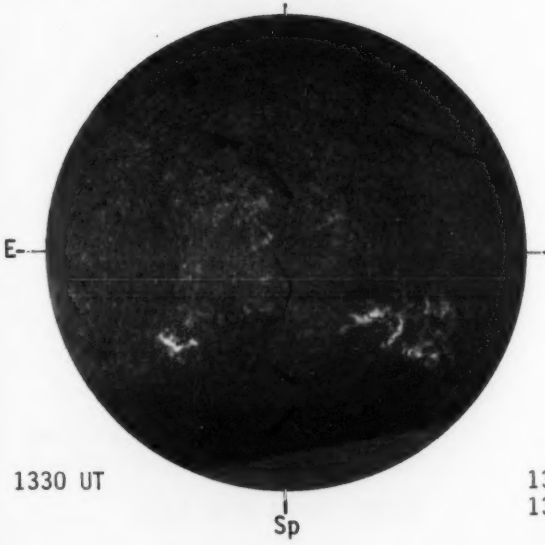
STANFORD MAGNETOGRAM



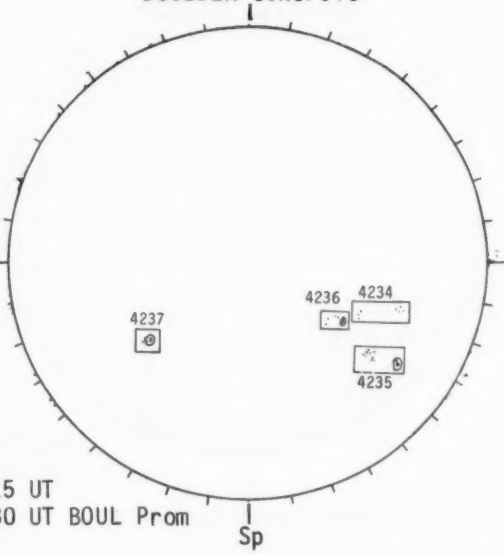
MT. WILSON MAGNETOGRAM



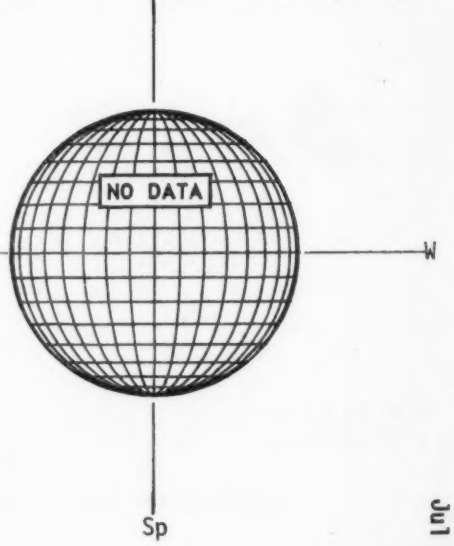
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

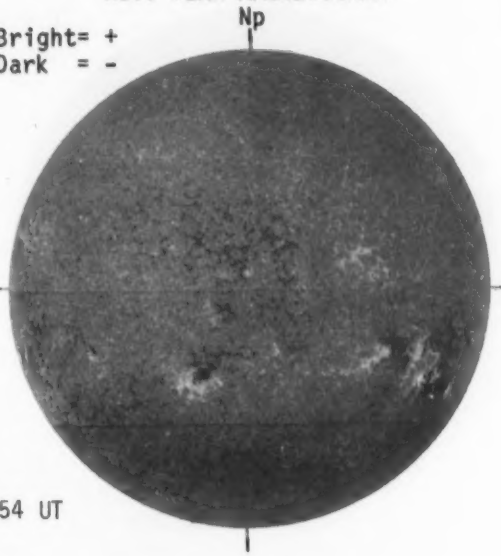


53
Jul 83

J U L 11, 1 9 8 3 (P=+ 1.58, B_o=+3.90, L_o= 238.22)

KITT PEAK MAGNETOGRAM

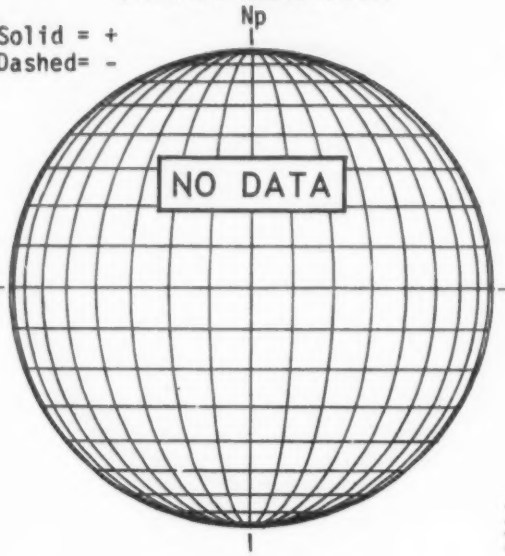
Bright= +
Dark = -



1554 UT

STANFORD MAGNETOGRAM

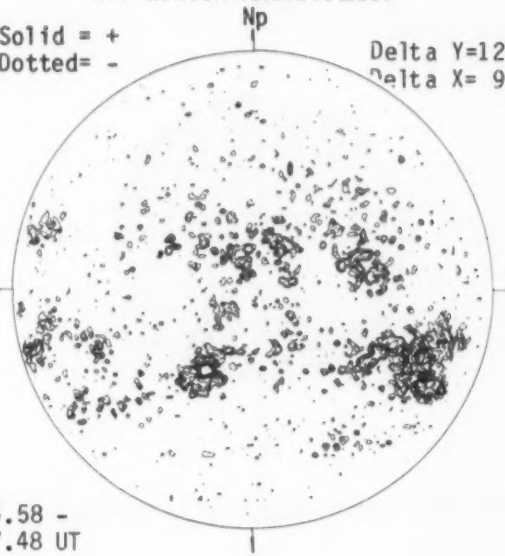
Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

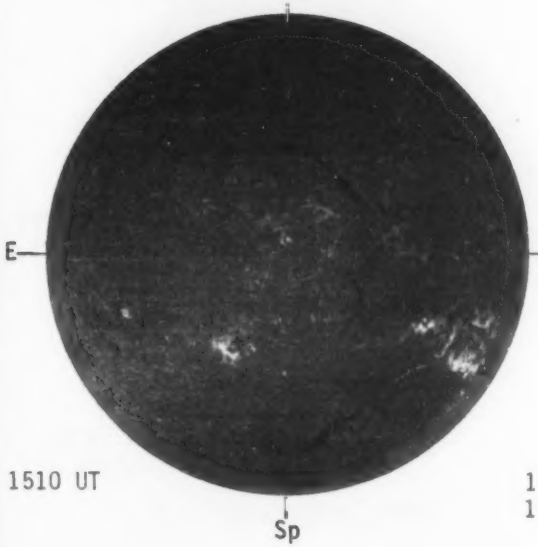
Solid = +
Dotted= -

Delta Y=12.7
Delta X= 9.6



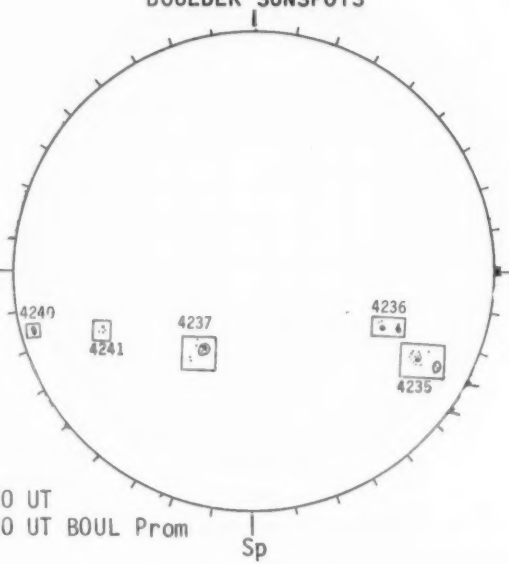
16.58 -
17.48 UT

BOULDER H-ALPHA



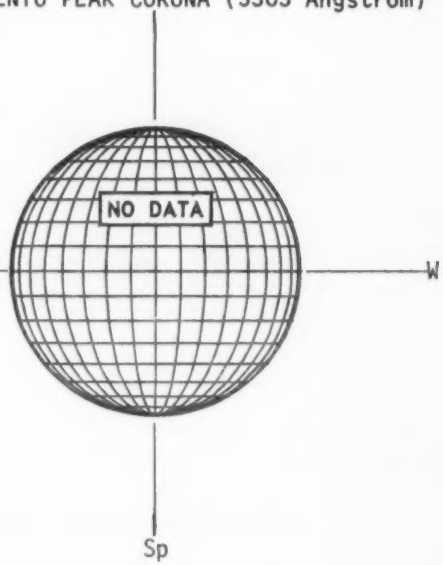
1510 UT

BOULDER SUNSPOTS



1420 UT
1510 UT BOUL Prom

SACRAMENTO PEAK CORONA (5303 Angstrom)



J U L 12, 1 9 8 3 (P=+ 2.03, B_o=+4.00, L_o= 224.99)

Sp

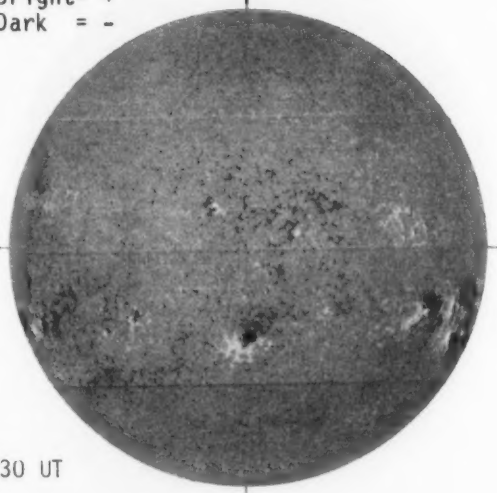
Sp

J U L 12, 1 9 8 3 (P=+ 2.03, B_o=+4.00, L_o= 224.99)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -



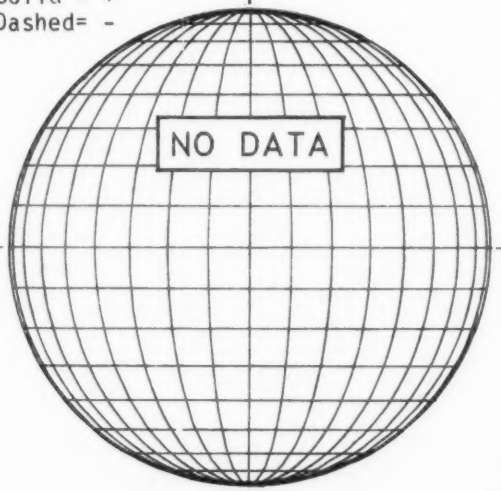
E

1330 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -

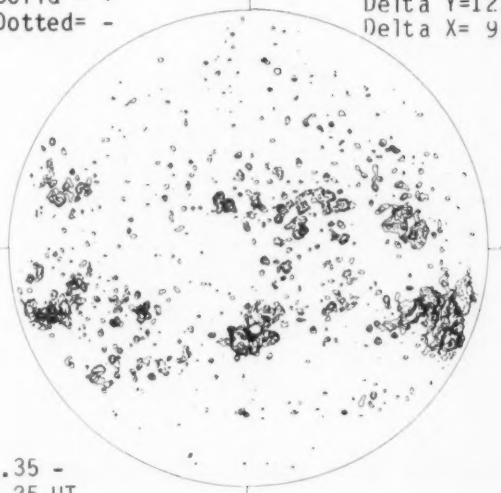


MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

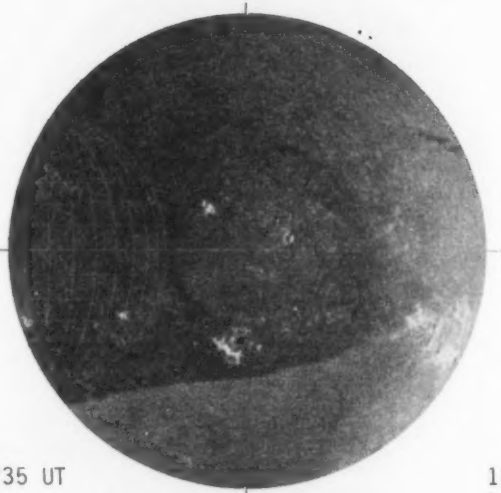
Delta Y=12.7
Delta X= 9.6



W

17.35 -
18.25 UT

BOULDER H-ALPHA

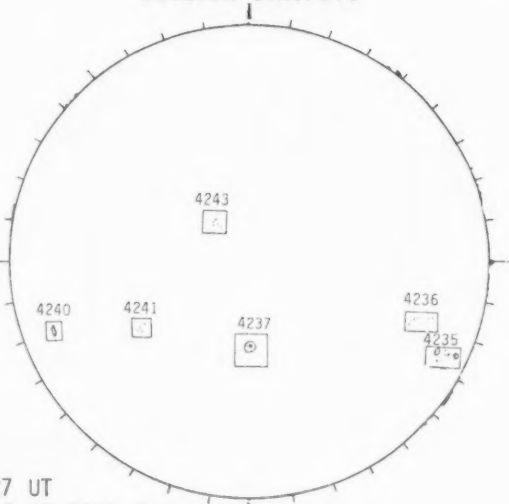


E

1235 UT

Sp

BOULDER SUNSPOTS



1227 UT
1235 UT BOUL Prom

Sp

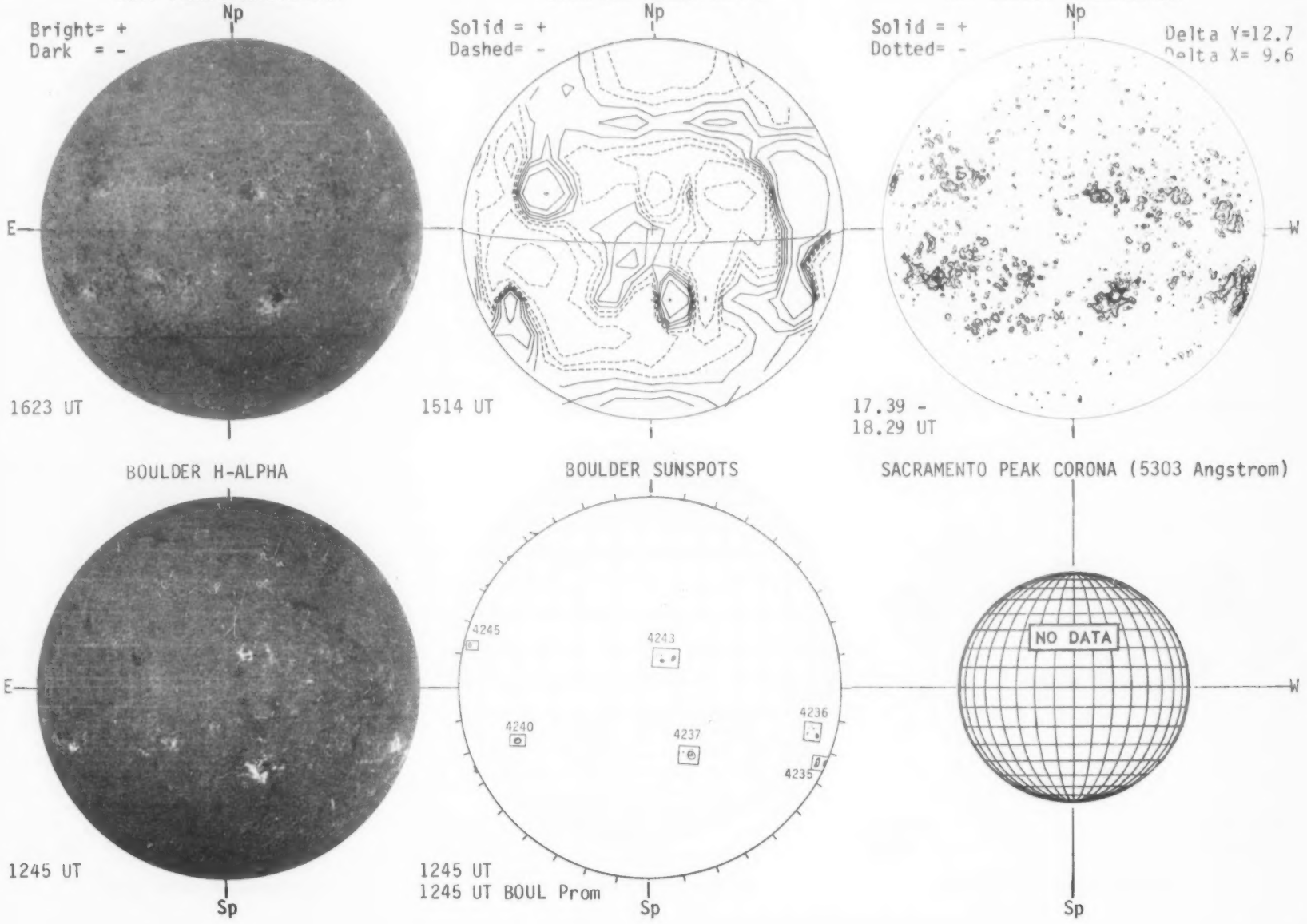
SACRAMENTO PEAK CORONA (5303 Angstrom)

W

Sp

55
Jul 83

J U L 13, 1 9 8 3 (P=+ 2.48, B_0=+4.10, L_0= 211.76)



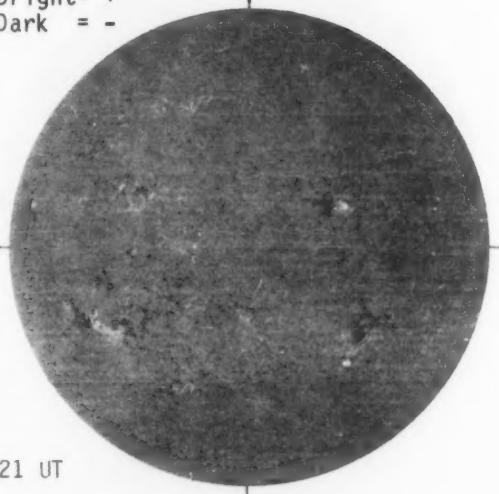
Sp Sp Sp

J U L 14, 1 9 8 3 (P=+ 2.92, B_o=+4.20, L_o= 198.52)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -



E

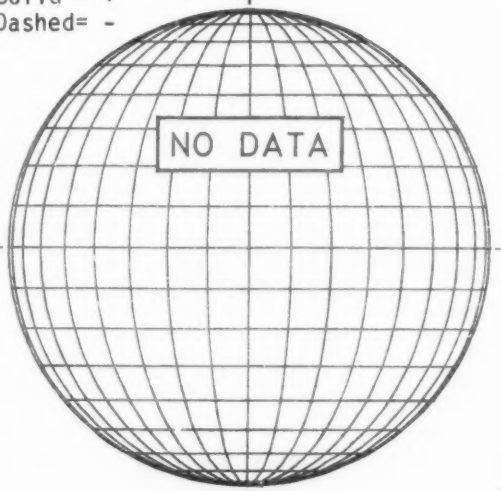
1621 UT

Sp

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -



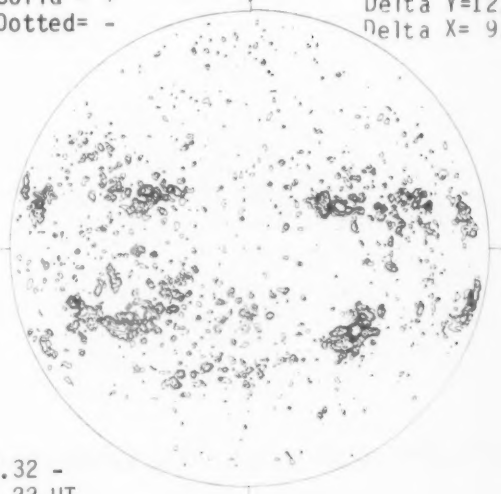
Sp

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

Delta Y=12.7
Delta X= 9.6

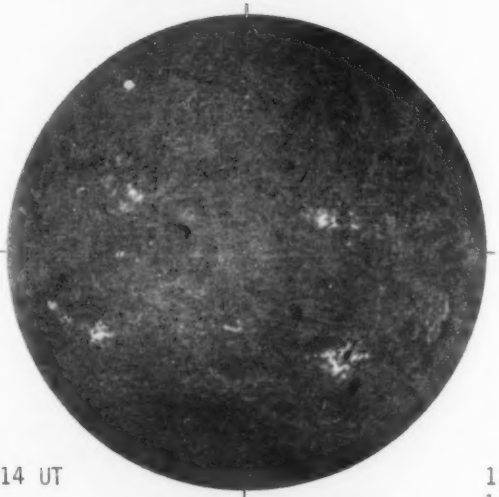


W

17.32 -
18.22 UT

Sp

BOULDER H-ALPHA

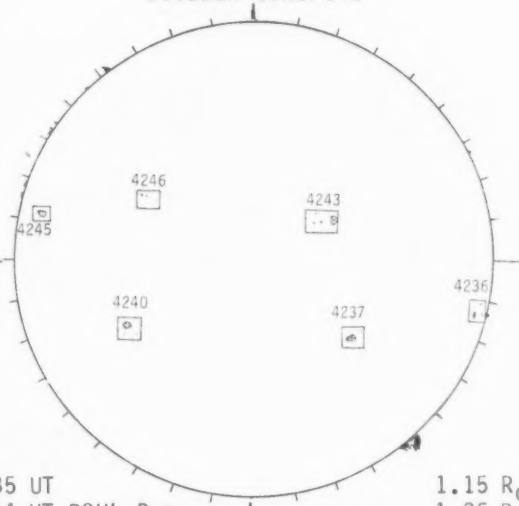


E

1414 UT

Sp

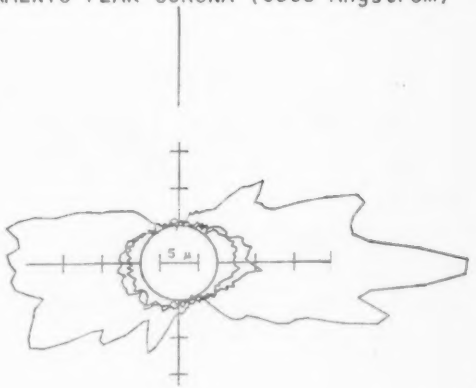
BOULDER SUNSPOTS



1235 UT
1414 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



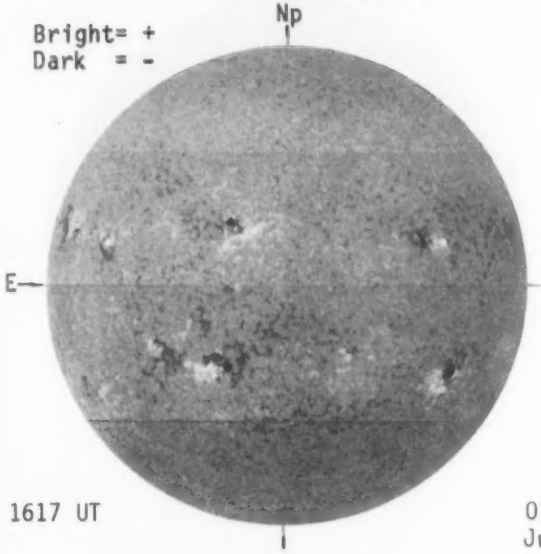
1.15 R_o 1555 UT
1.35 R_o 1602 UT
1.45 R_o 1609 UT

Sp

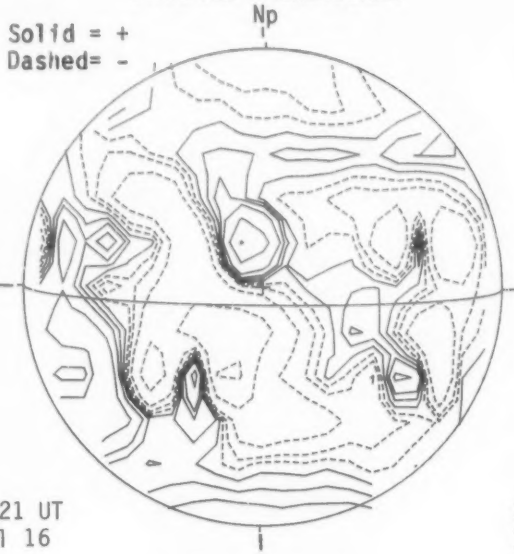
57
Jul 83

J U L 15, 1 9 8 3 (P=+ 3.37, B_o=+4.30, L_o= 185.29)

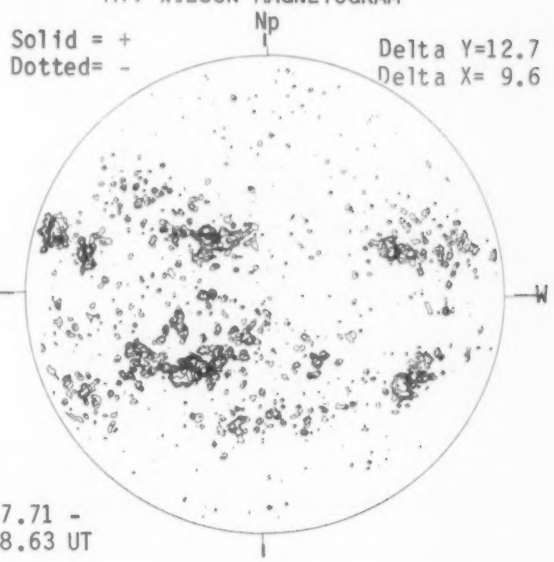
KITT PEAK MAGNETOGRAM



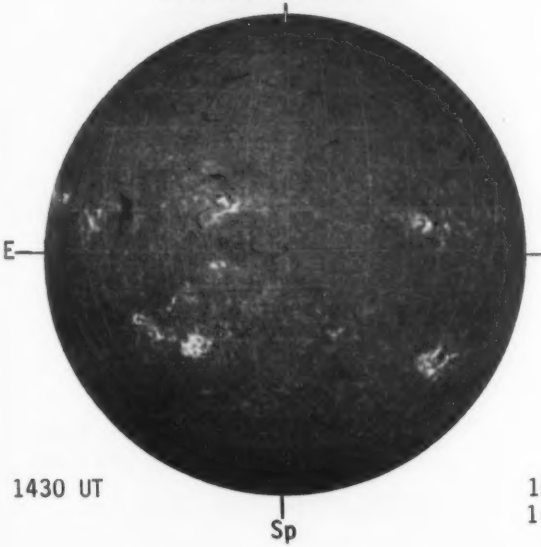
STANFORD MAGNETOGRAM



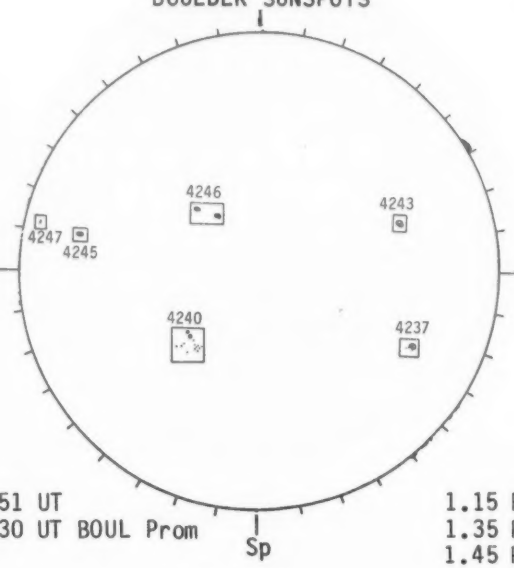
MT. WILSON MAGNETOGRAM



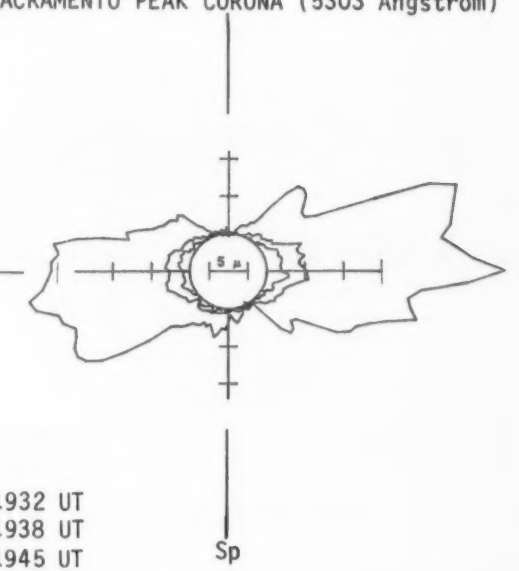
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



J U L 16, 1 9 8 3 (P=+ 3.81, B_o=+4.40, L_o= 172.06)

1.45 R_o 1945 UT

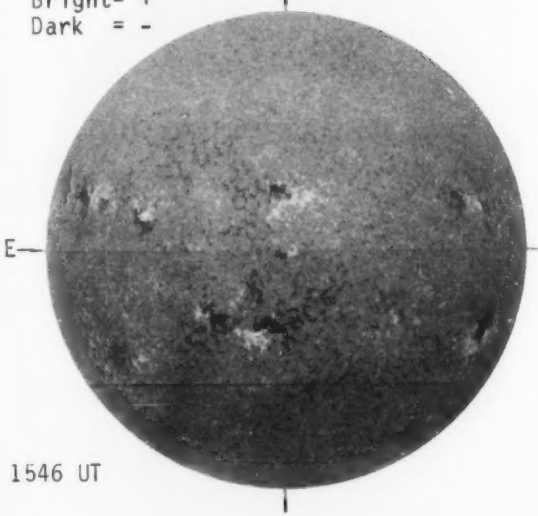
Sp

J U L 16, 1 9 8 3 (P=+ 3.81, B_o=+4.40, L_o= 172.06)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -



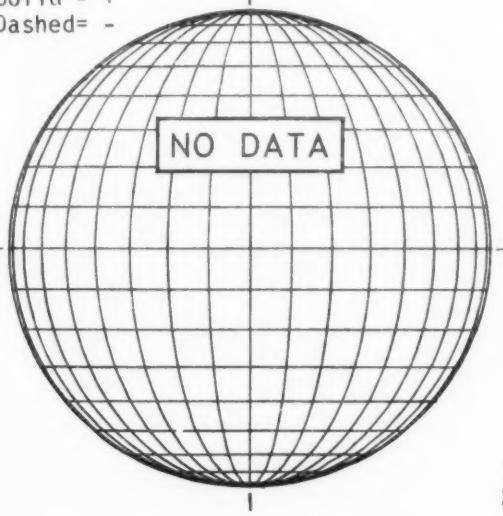
E

1546 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -

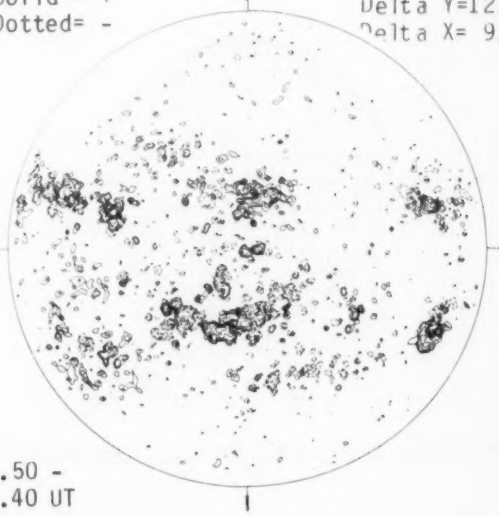


MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

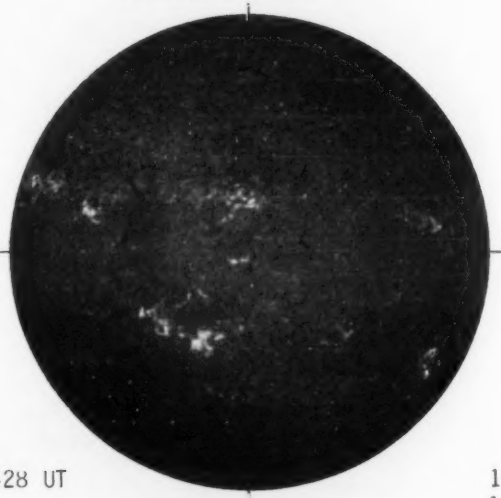
Delta Y=12.7
Delta X= 9.6



W

19.50 -
20.40 UT

BOULDER H-ALPHA

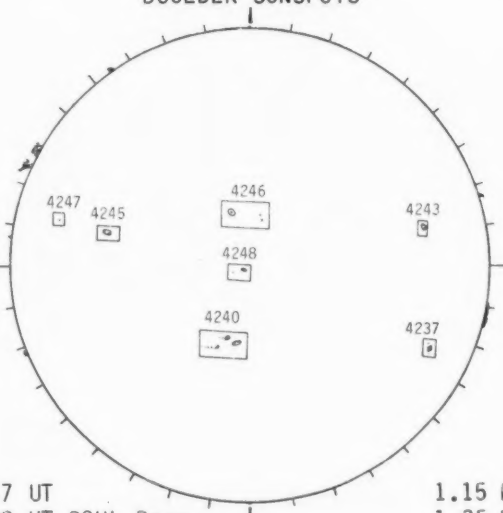


E

1428 UT

Sp

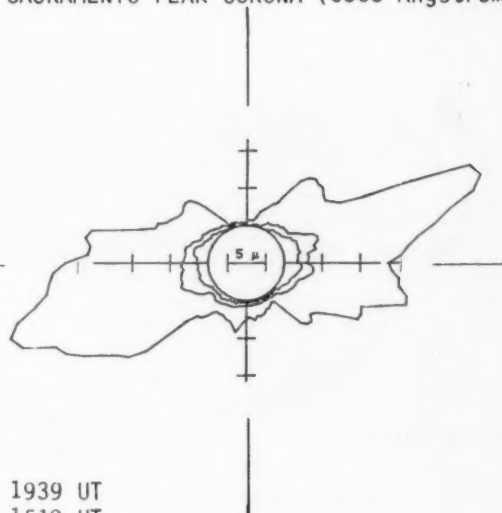
BOULDER SUNSPOTS



1317 UT
1428 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



W

1.15 R_o 1939 UT
1.35 R_o 1519 UT
1.45 R_o 1526 UT

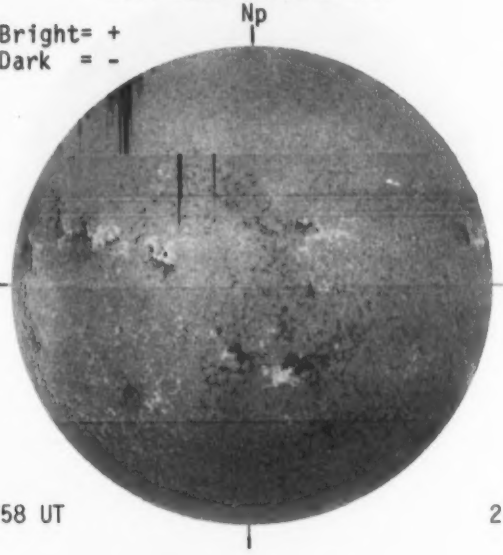
Sp

59
Jul 83

J U L 17, 1 9 8 3 (P=+ 4.26, B_0=+4.49, L_0= 158.83)

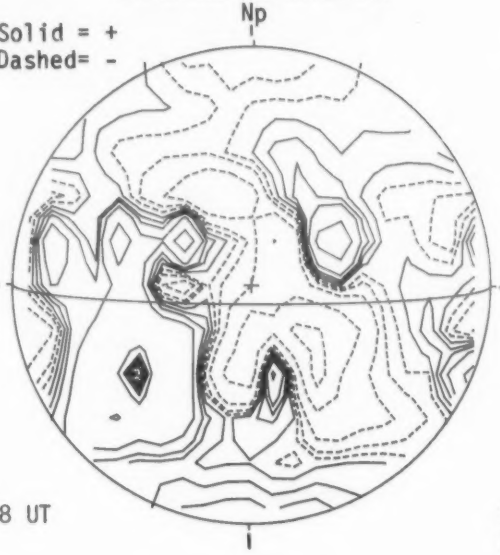
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



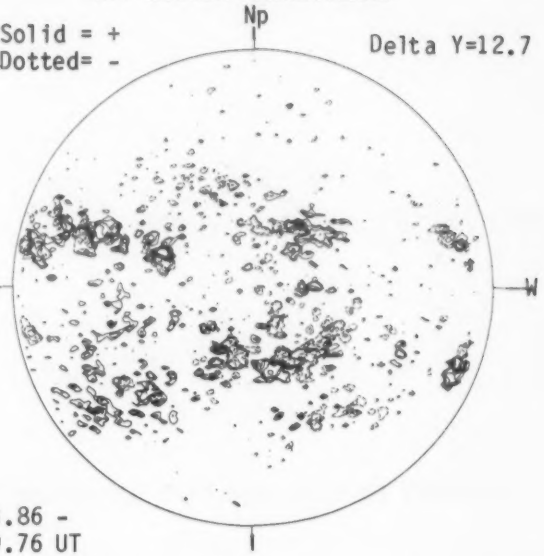
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

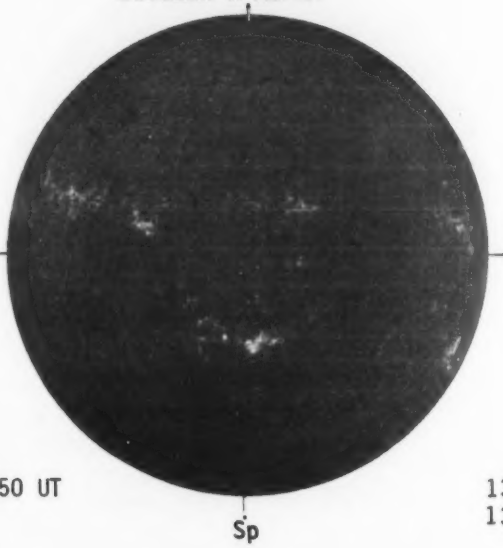


MT. WILSON MAGNETOGRAM

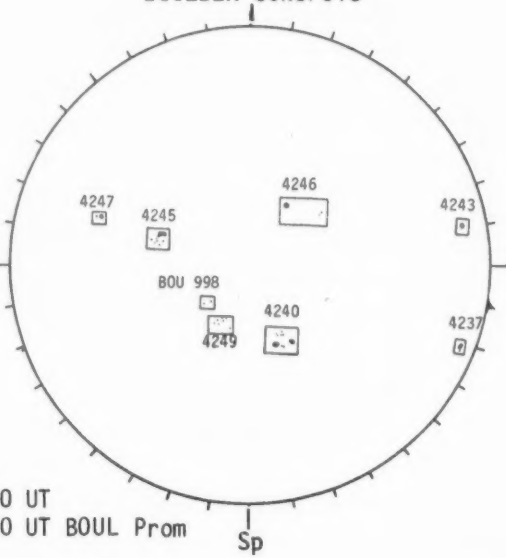
Solid = +
Dotted= -
Delta Y=12.7



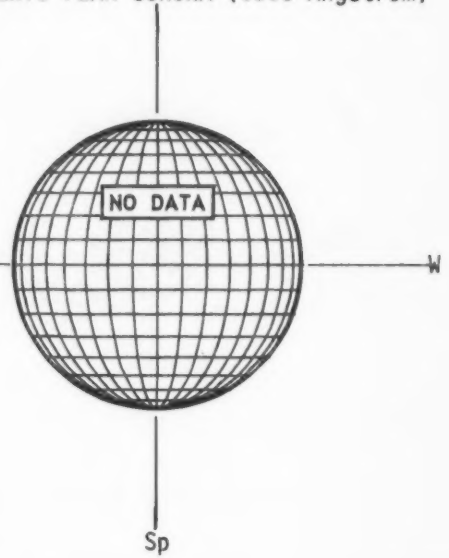
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



J U L 18, 1 9 8 3 (P=+ 4.70, B_0=+4.58, L_0= 145.59)

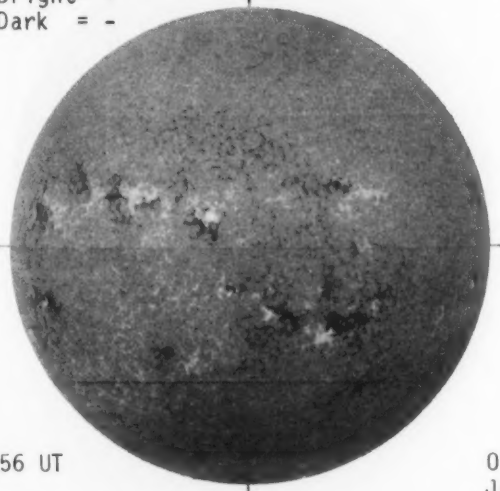
Sp Sp Sp

J U L 18, 1 9 8 3 (P=+ 4.70, B_o=+4.58, L_o= 145.59)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -



E

1556 UT

Sp

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -

0139 UT
Jul 19

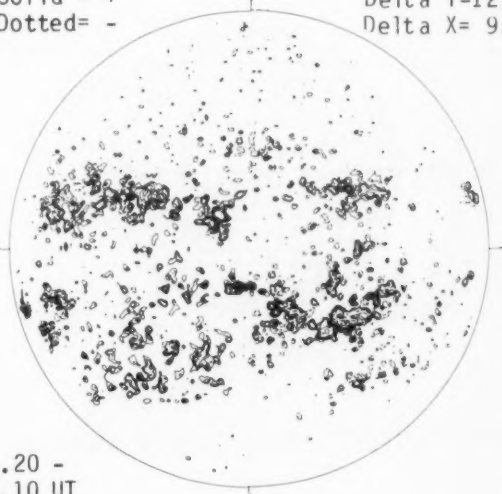
Sp

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

Delta Y=12.7
Delta X= 9.6



W

19.20 -
20.10 UT

Sp

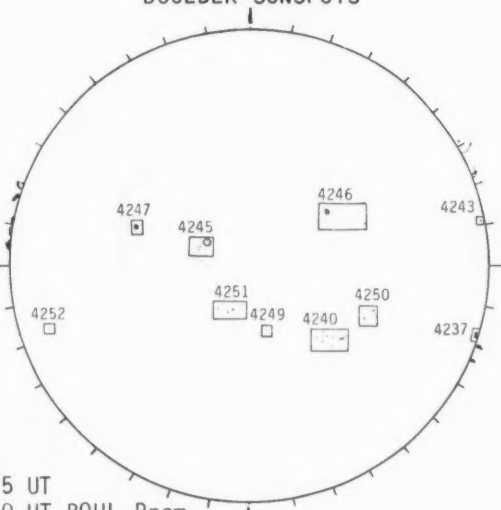
BOULDER H-ALPHA

E

1650 UT

Sp

BOULDER SUNSPOTS



1345 UT
1650 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)

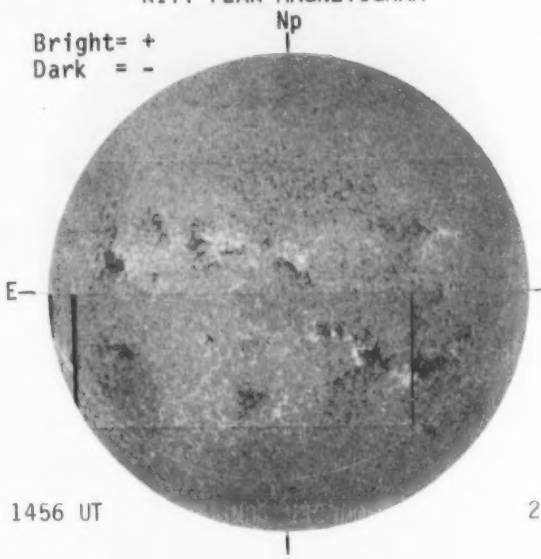
W

Sp

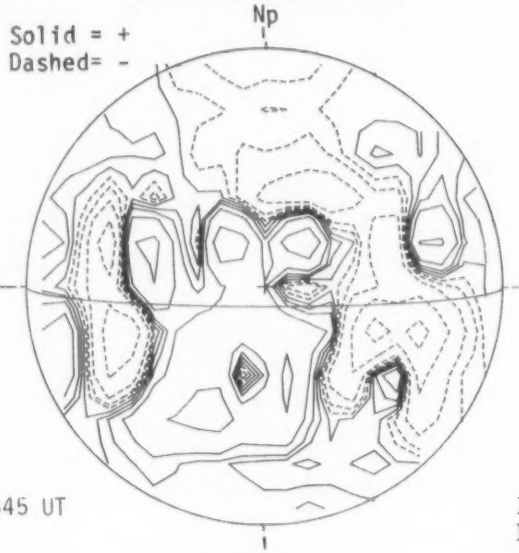
61
Jul 83

J U L 19, 1 9 8 3 (P=+ 5.14, B_o=+4.68, L_o= 132.36)

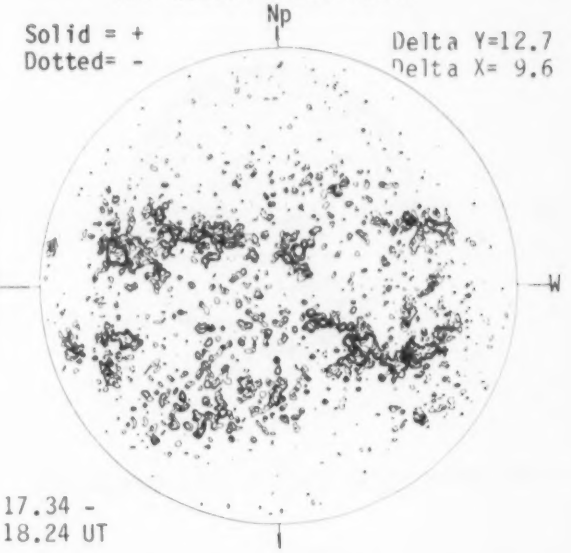
KITT PEAK MAGNETOGRAM



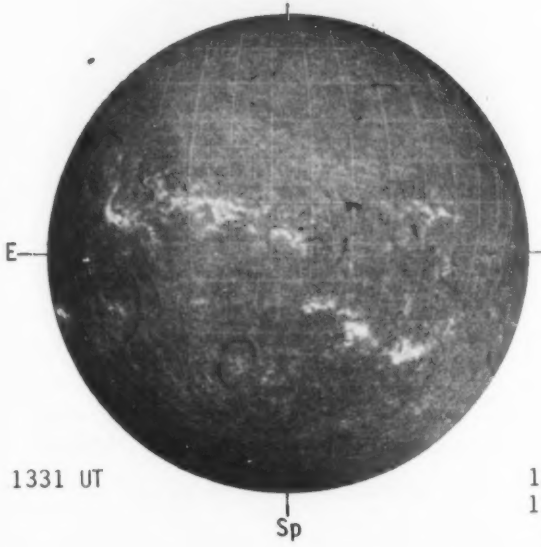
STANFORD MAGNETOGRAM



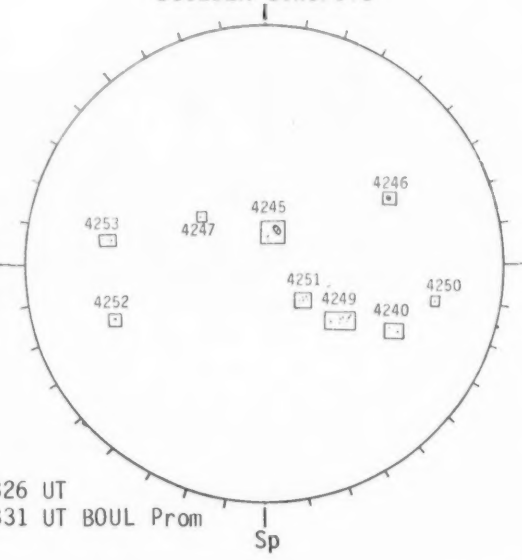
MT. WILSON MAGNETOGRAM



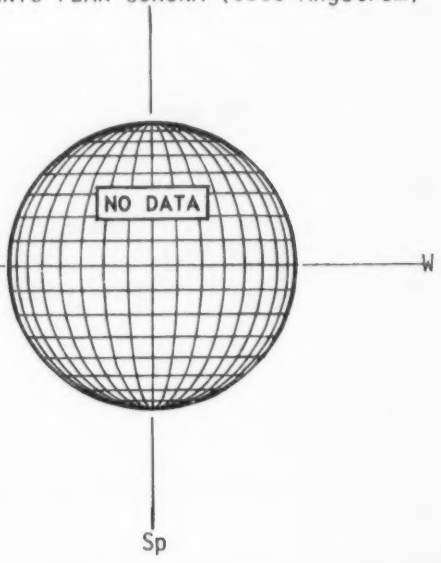
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



Sp

1331 UT BOUL Prom

Sp

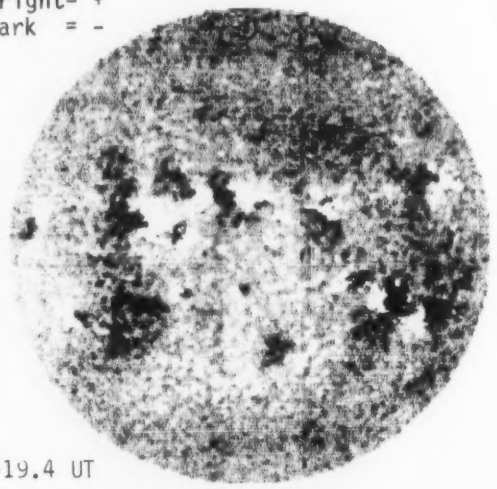
Sp

J U L 20, 1 9 8 3 (P=+ 5.57, B_o=+4.77, L_o= 119.13)

MT. WILSON MAGNETOGRAM

Np

Bright= +
Dark = -



E—

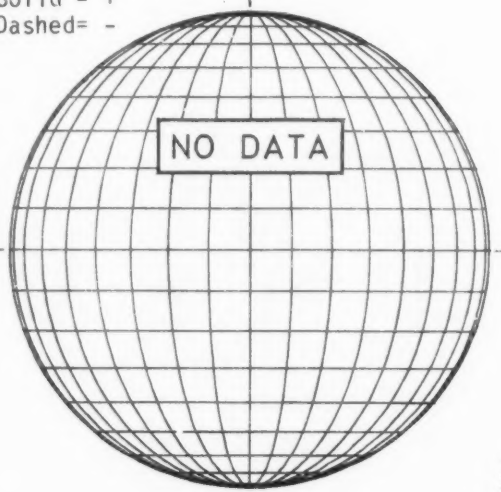
18.5-19.4 UT

Sp

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -



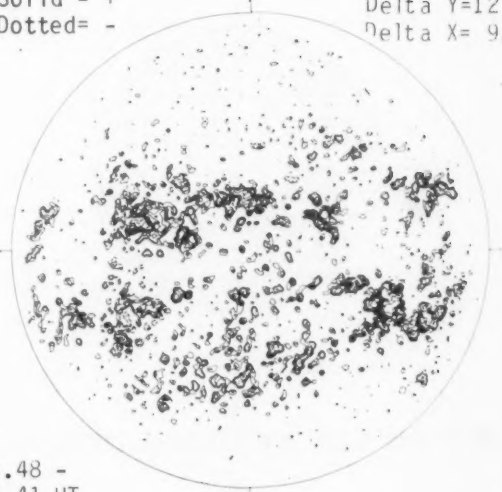
Sp

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

Delta Y=12.7
Delta X= 9.6

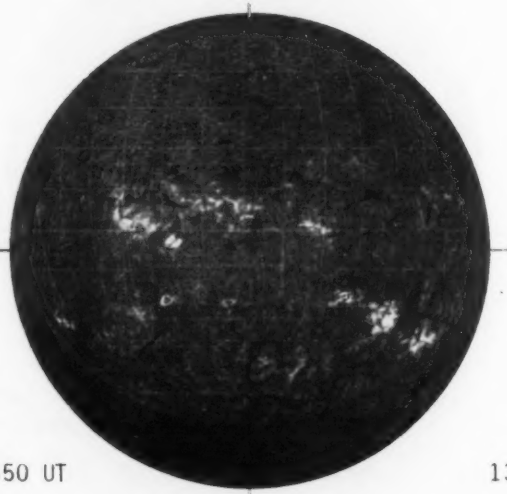


—W

18.48 -
19.41 UT

Sp

BOULDER H-ALPHA

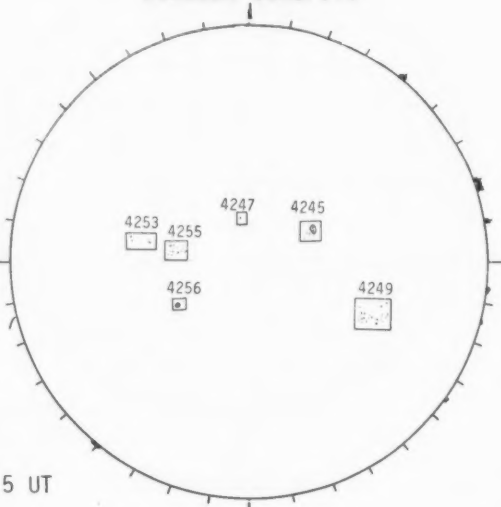


E—

1450 UT

Sp

BOULDER SUNSPOTS



1315 UT

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)

—W

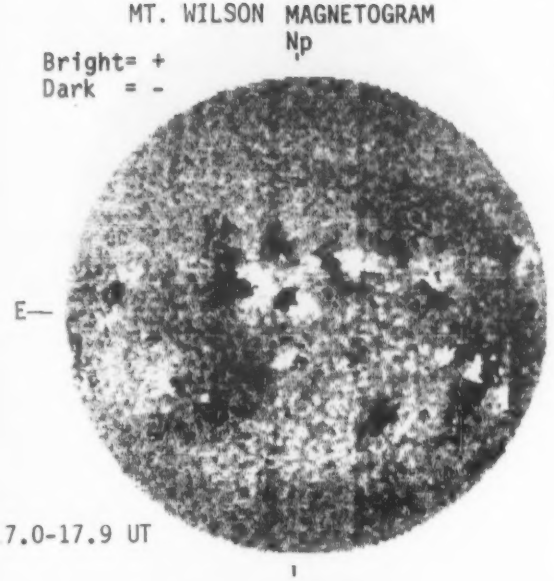
Sp

63
Jul 83

J U L 21, 1 9 8 3 (P=+ 6.01, B_0=+4.86, L_0= 105.90)

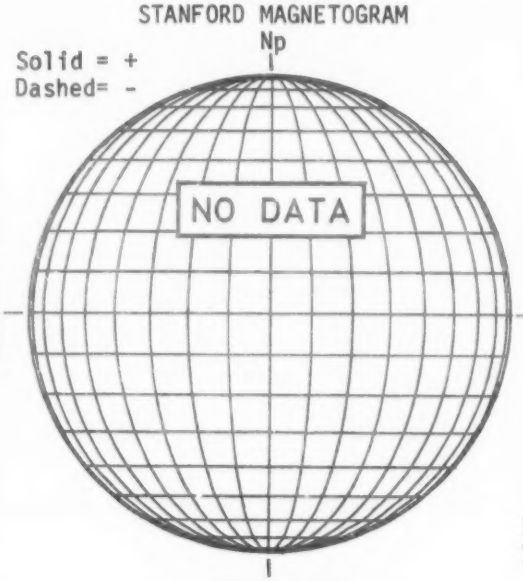
MT. WILSON MAGNETOGRAM

Bright= +
Dark = -



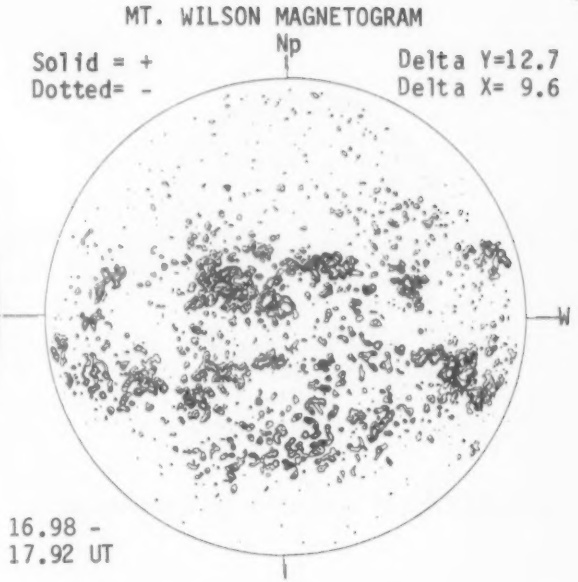
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

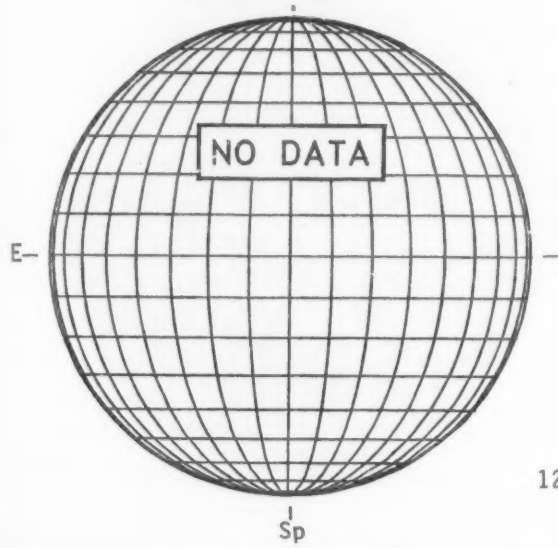


MT. WILSON MAGNETOGRAM

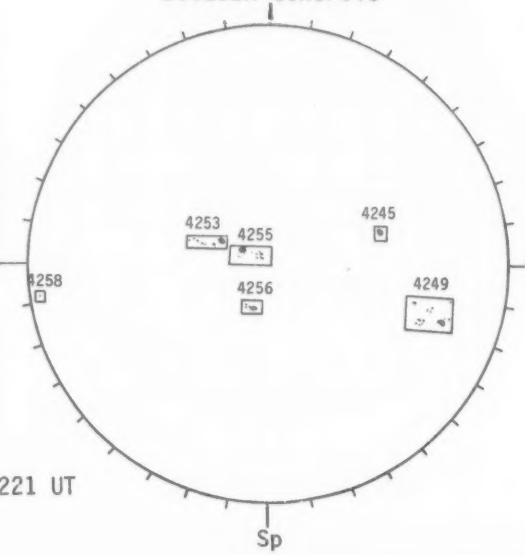
Solid = +
Dotted= -
Delta Y=12.7
Delta X= 9.6



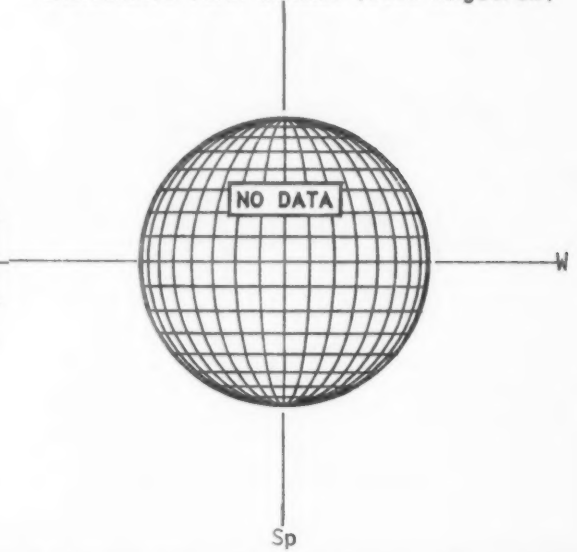
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



J U L 22, 1 9 8 3 (P=+ 6.44, B_0=+4.95, L_0= 92.67)

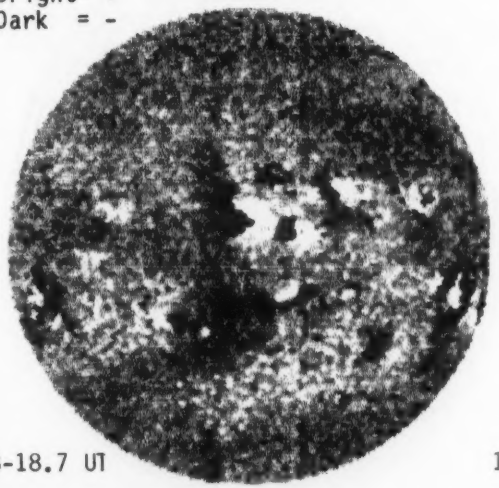
Sp Sp Sp

J U L 22, 1 9 8 3 (P=+ 6.44, B_o=+4.95, L_o= 92.67)

MT. WILSON MAGNETOGRAM

Np

Bright= +
Dark = -



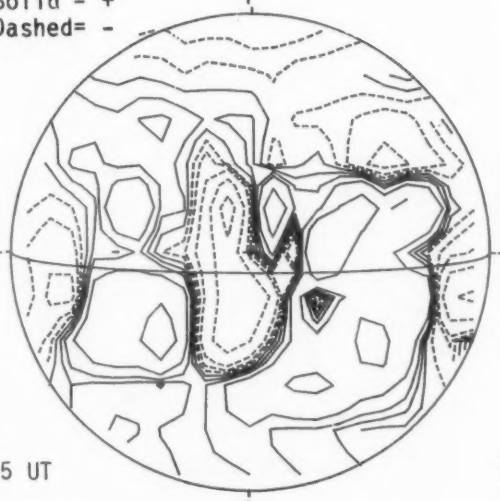
E-

17.8-18.7 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -



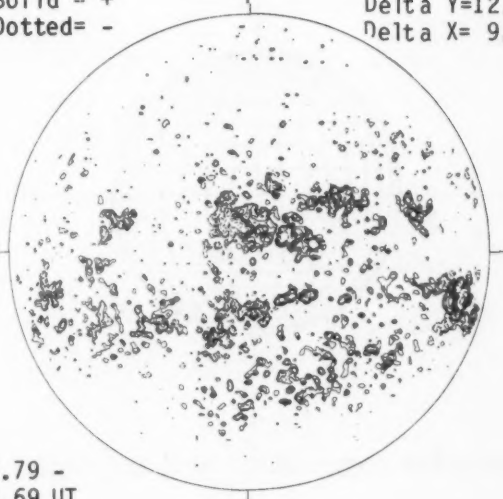
1925 UT

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

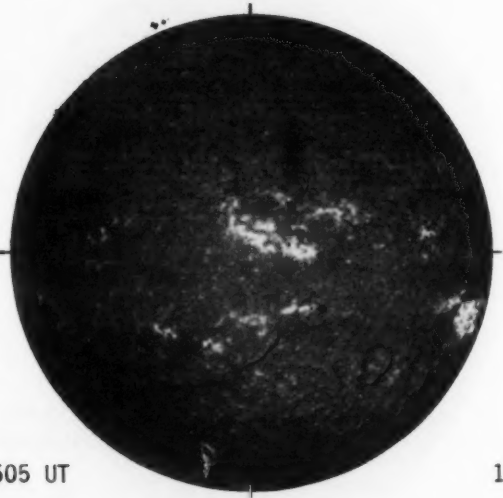
Delta Y=12.7
Delta X= 9.6



W

17.79 -
18.69 UT

BOULDER H-ALPHA

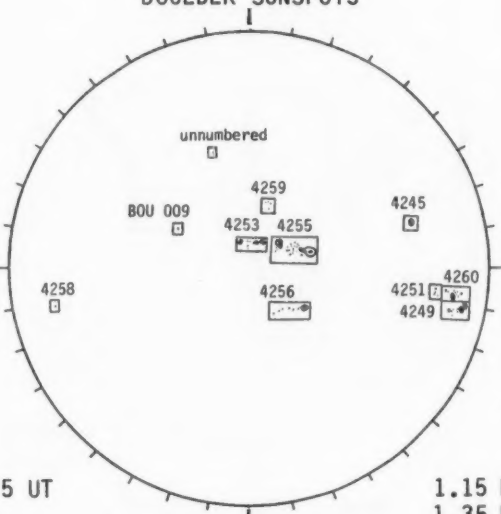


E

1505 UT

Sp

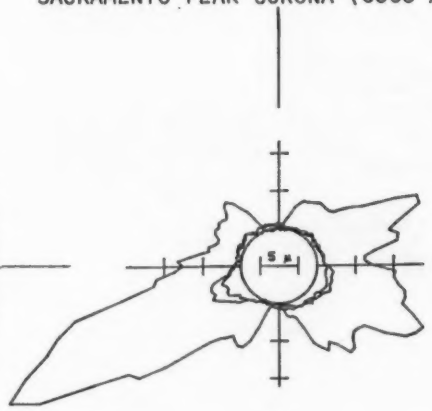
BOULDER SUNSPOTS



1515 UT

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



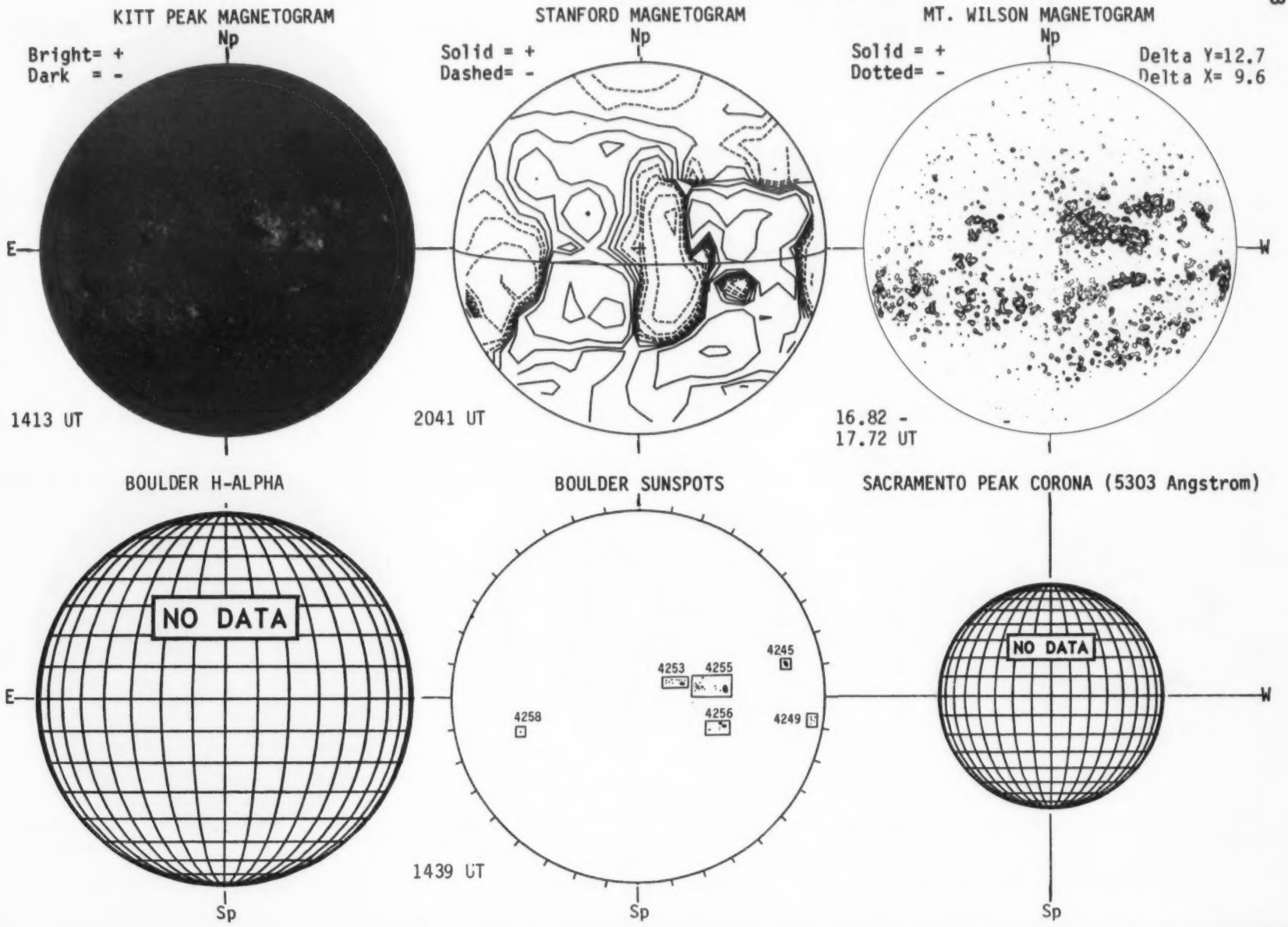
W

1.15 R_o 1454 UT
1.35 R_o 1500 UT
1.45 R_o 1506 UT

Sp

65
Jul 83

J U L 23, 1 9 8 3 (P=+ 6.87, B_0=+5.04, L_0= 79.44)

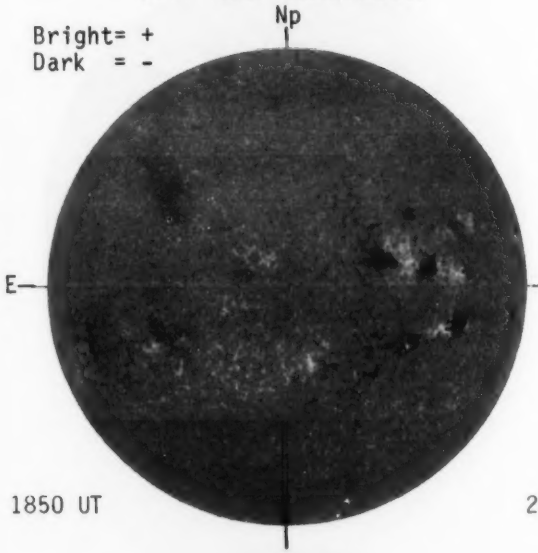


Sp Sp Sp

J U L 24, 1 9 8 3 (P=+ 7.29, B_o=+5.12, L_o= 66.21)

KITT PEAK MAGNETOGRAM

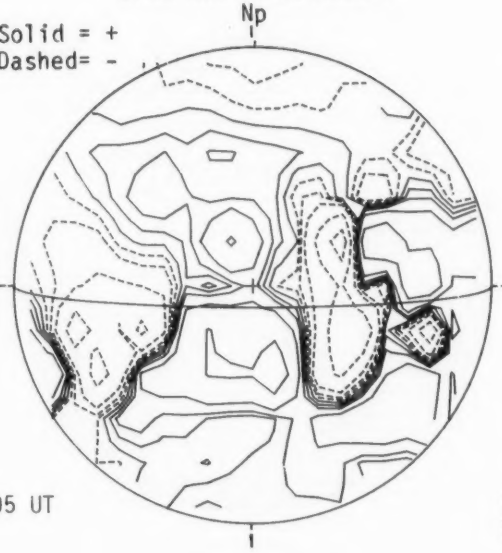
Bright= +
Dark = -



1850 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

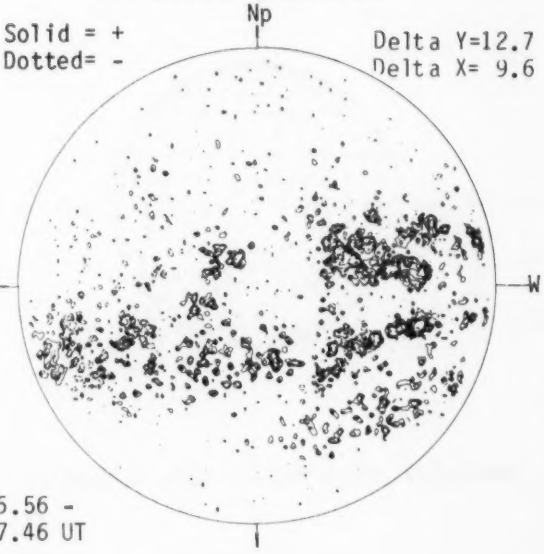


2005 UT

MT. WILSON MAGNETOGRAM

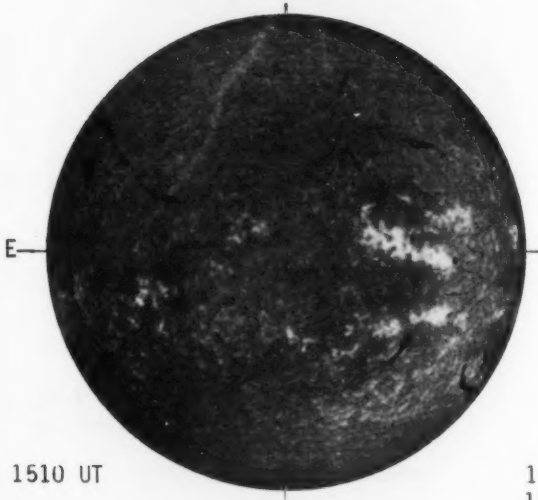
Solid = +
Dotted= -

Delta Y=12.7
Delta X= 9.6



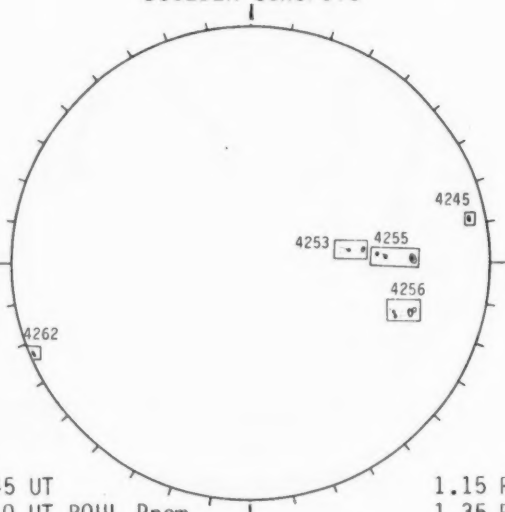
16.56 -
17.46 UT

BOULDER H-ALPHA



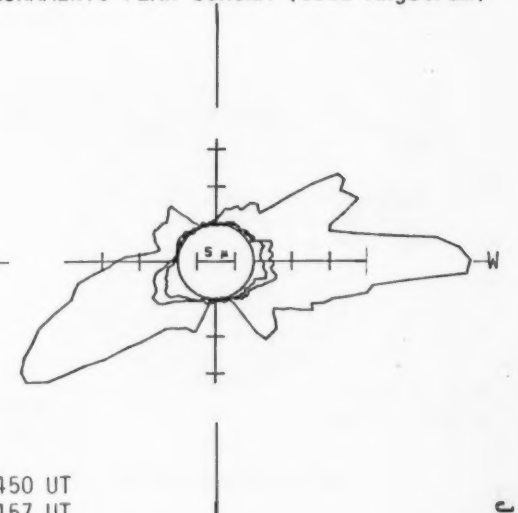
1510 UT

BOULDER SUNSPOTS



1445 UT
1510 UT BOUL Prom

SACRAMENTO PEAK CORONA (5303 Angstrom)



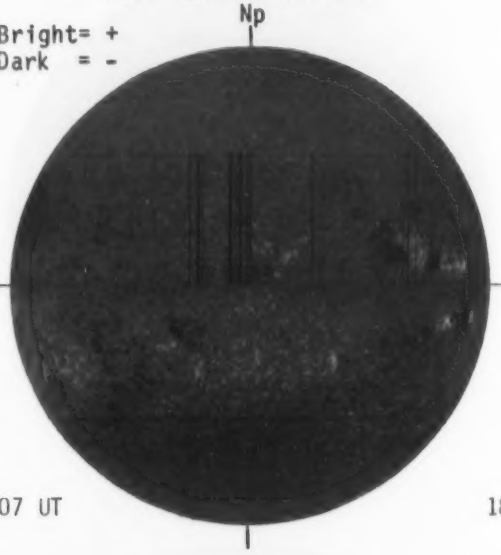
1.15 R_o 1450 UT
1.35 R_o 1457 UT
1.45 R_o 1509 UT

67
Jul 83

J U L 25, 1 9 8 3 (P=+ 7.72, B_0=+5.21, L_0= 52.98)

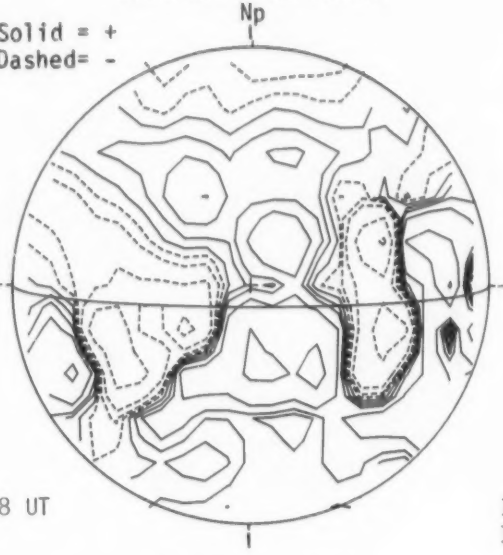
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



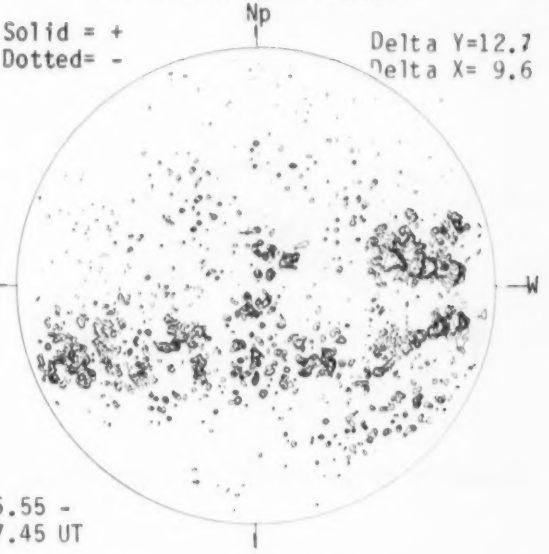
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

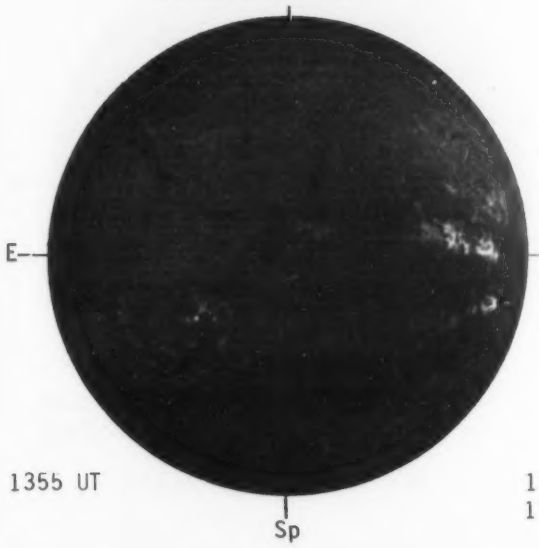


MT. WILSON MAGNETOGRAM

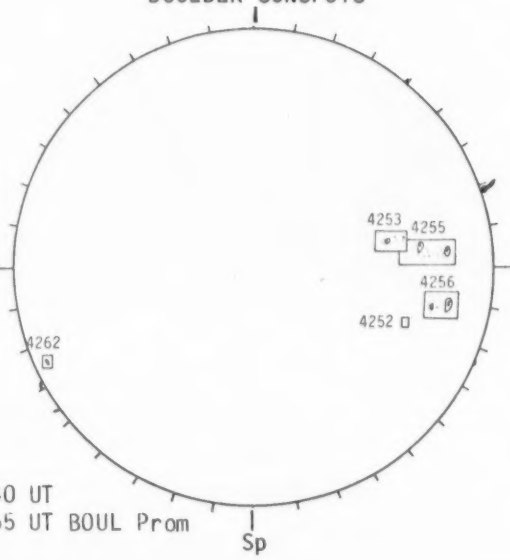
Solid = +
Dotted= -



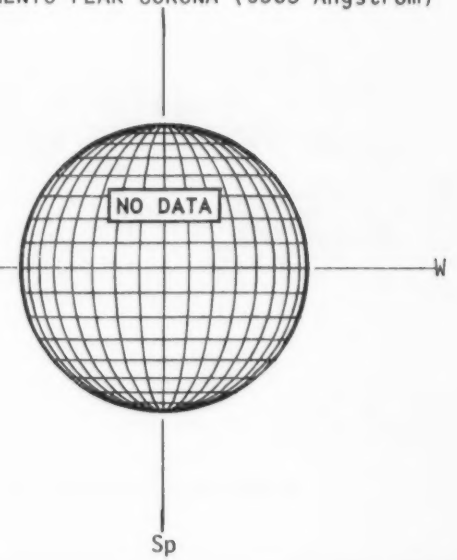
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



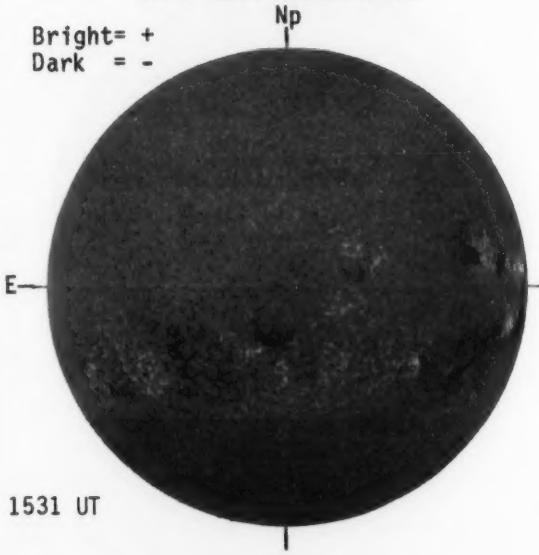
J U L 26, 1 9 8 3 (P=+ 8.14, B_0=+5.29, L_0= 39.75)

Sp Sp Sp

J U L 26, 1 9 8 3 (P=+ 8.14, B_O=+5.29, L_O= 39.75)

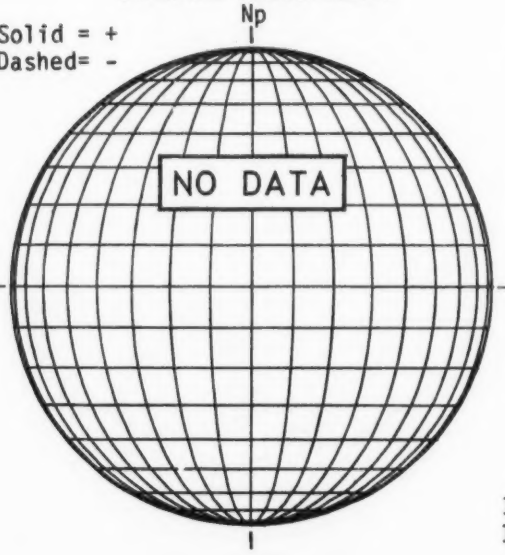
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



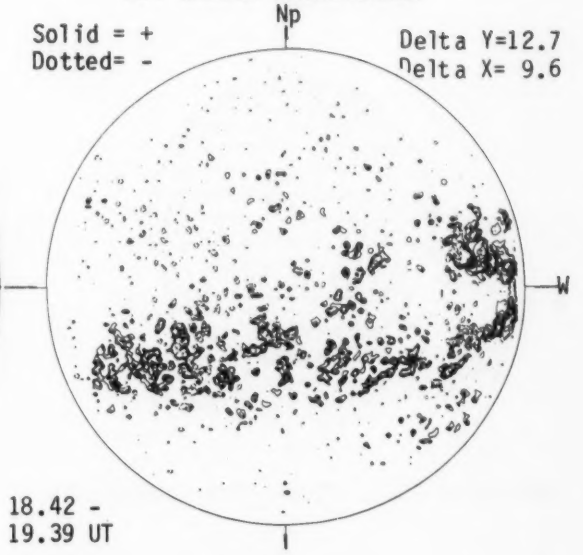
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

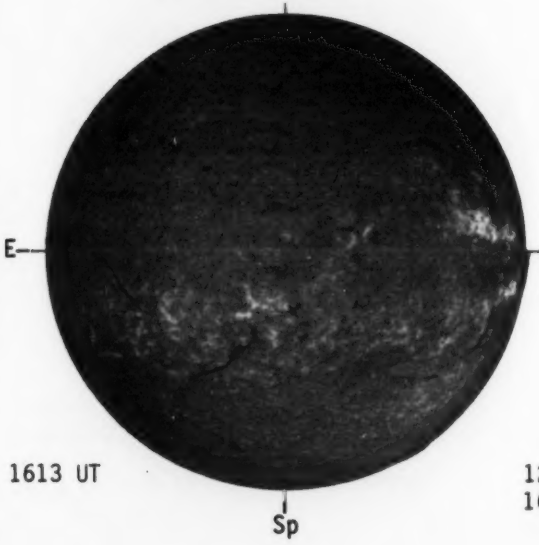


MT. WILSON MAGNETOGRAM

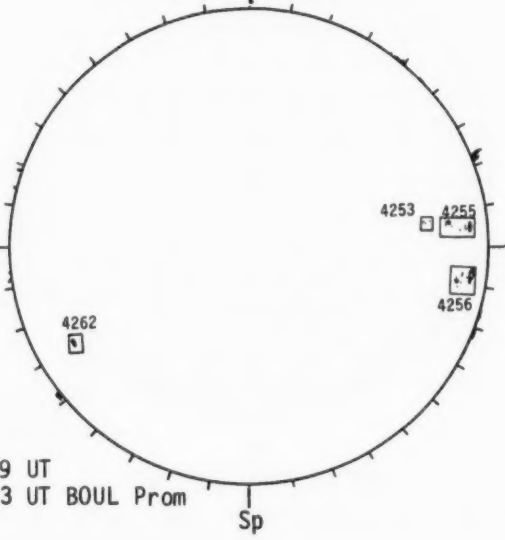
Solid = +
Dotted= -



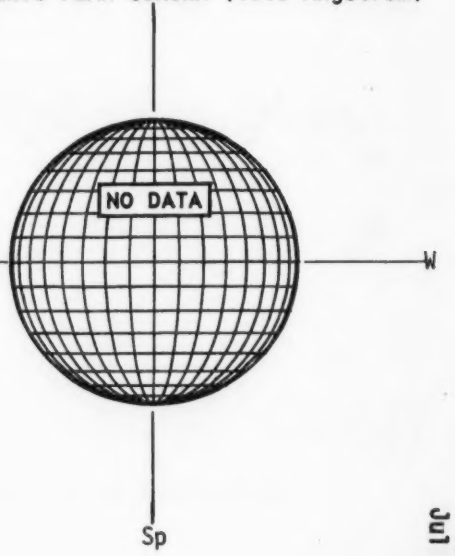
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

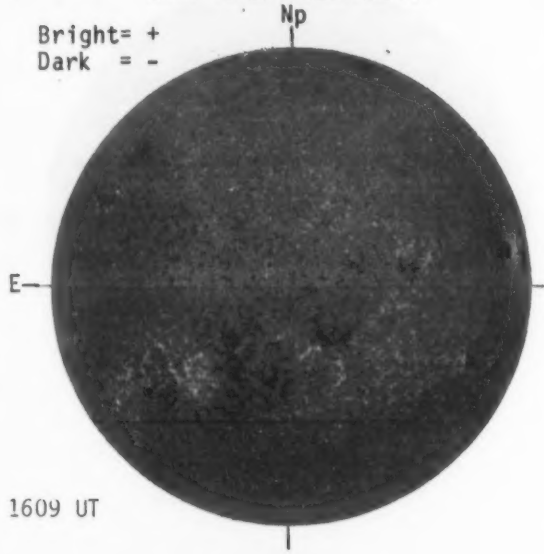


69
Jul 83

J U L 27, 1 9 8 3 (P=+ 8.56, B_o=+5.37, L_o= 26.52)

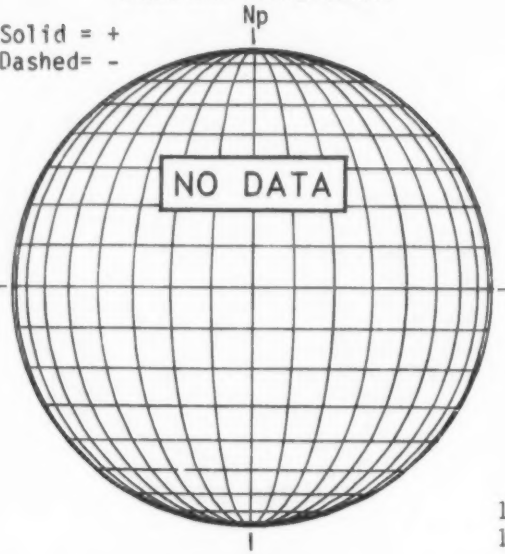
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



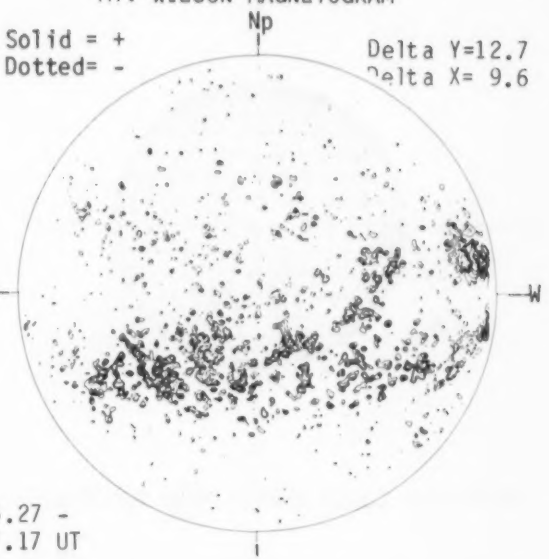
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

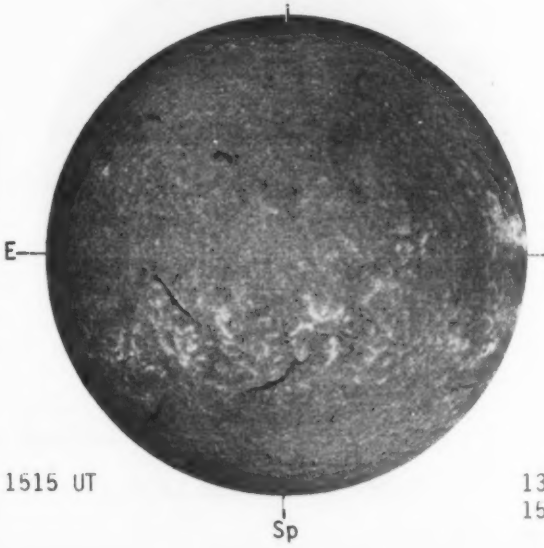


MT. WILSON MAGNETOGRAM

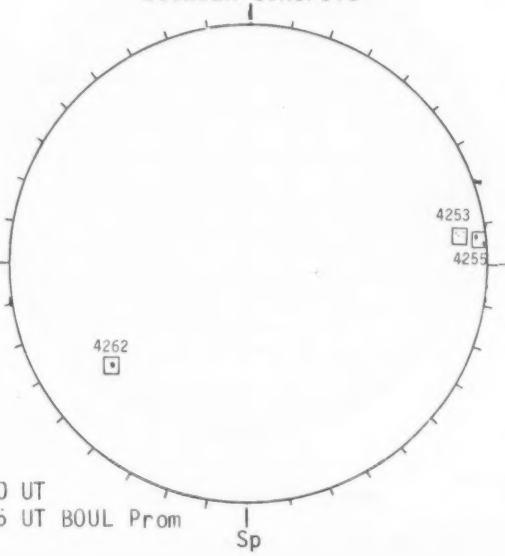
Solid = +
Dotted= -



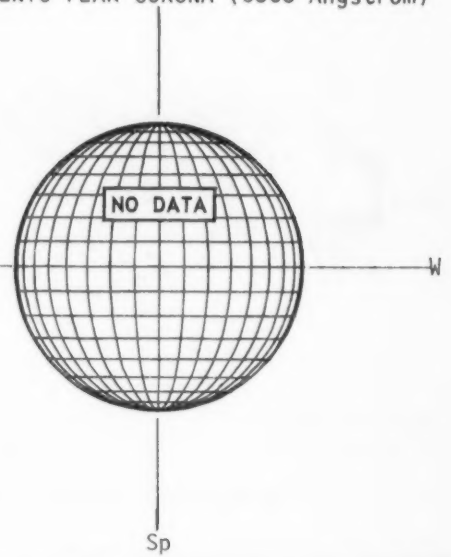
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



Sp

1515 UT BOUL Prom

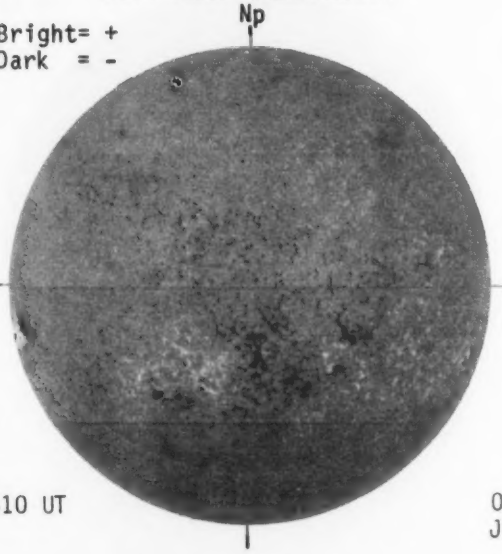
Sp

Sp

J U L 28, 1 9 8 3 (P=+ 8.97, B_o=+5.45, L_o= 13.29)

KITT PEAK MAGNETOGRAM

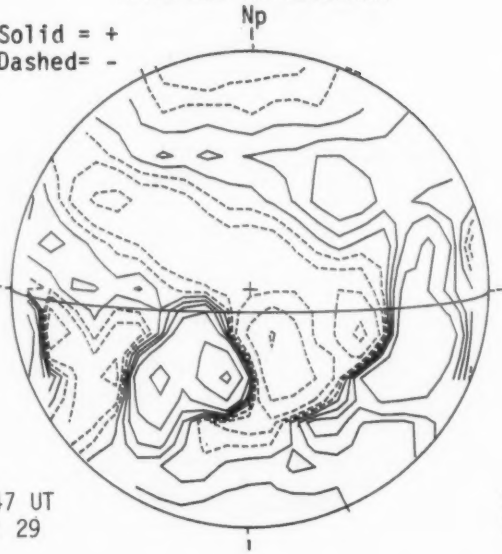
Bright= +
Dark = -



1610 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

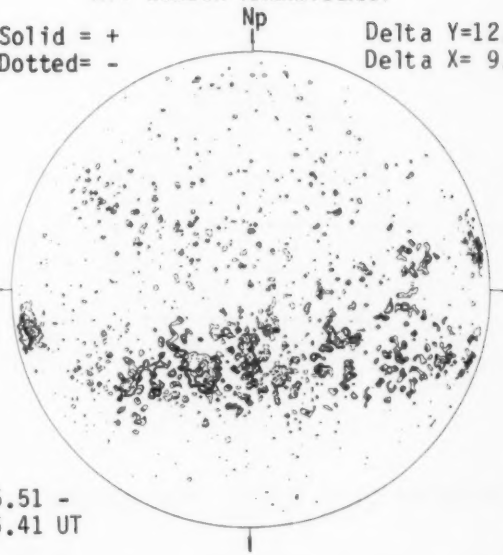


0047 UT
Jul 29

MT. WILSON MAGNETOGRAM

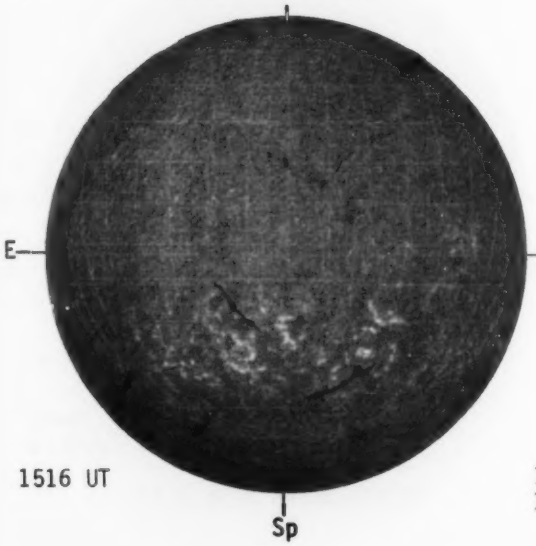
Solid = +
Dotted= -

Delta Y=12.6
Delta X= 9.6



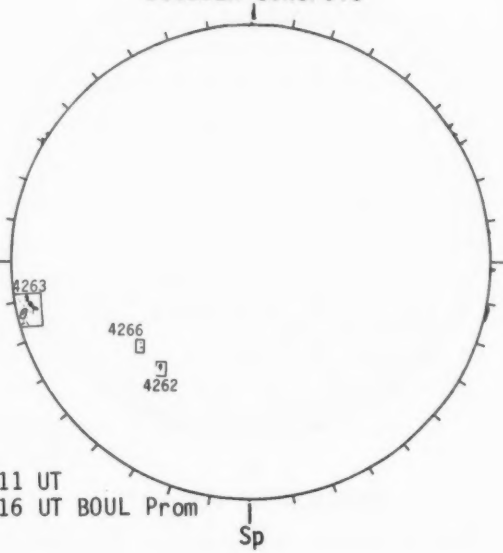
15.51 -
16.41 UT

BOULDER H-ALPHA



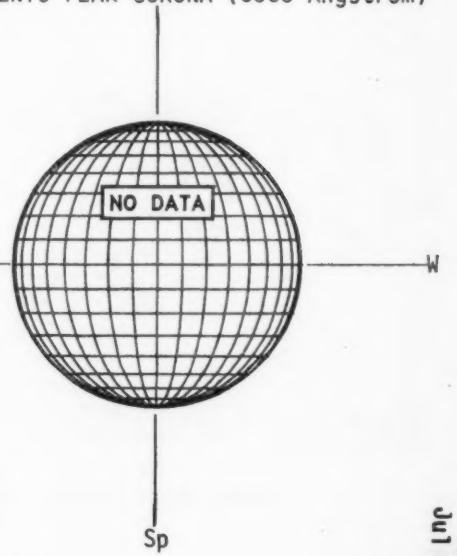
1516 UT

BOULDER SUNSPOTS



1511 UT
1516 UT BOUL Prom

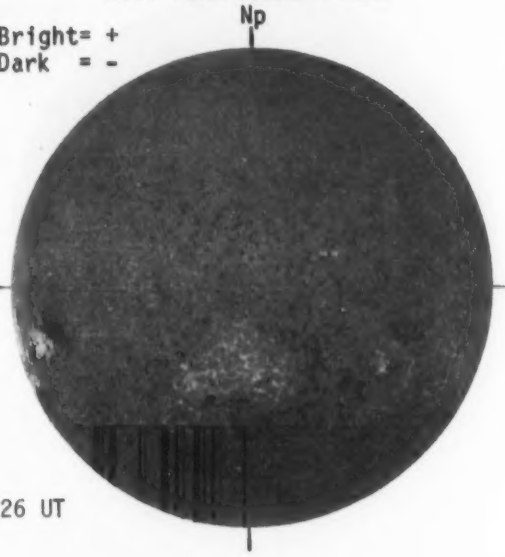
SACRAMENTO PEAK CORONA (5303 Angstrom)



J U L 29, 1 9 8 3 (P=+ 9.38, B_o=+5.53, L_o= 0.06)

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



1726 UT

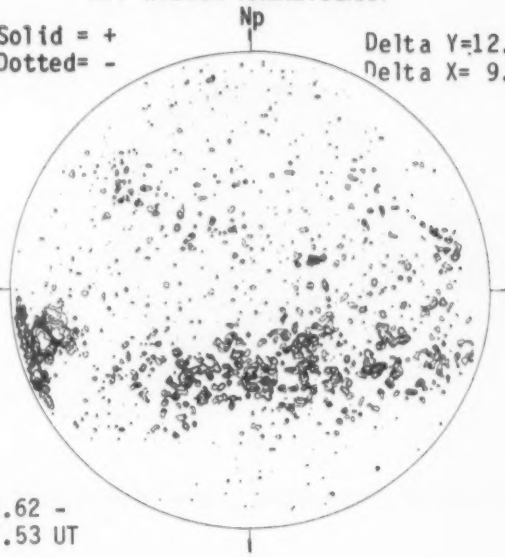
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

MT. WILSON MAGNETOGRAM

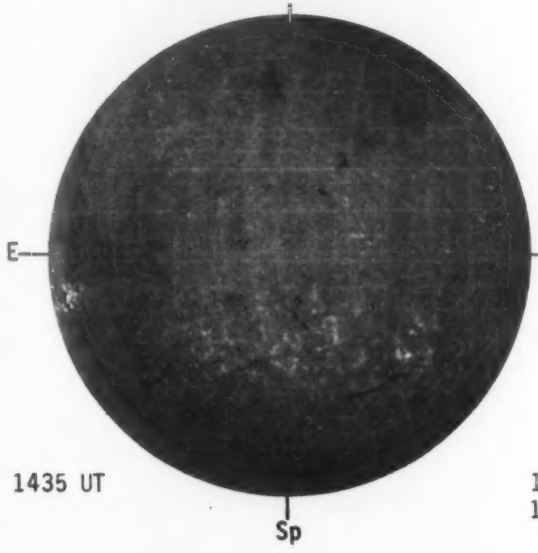
Solid = +
Dotted= -

Delta Y=12.6
Delta X= 9.6



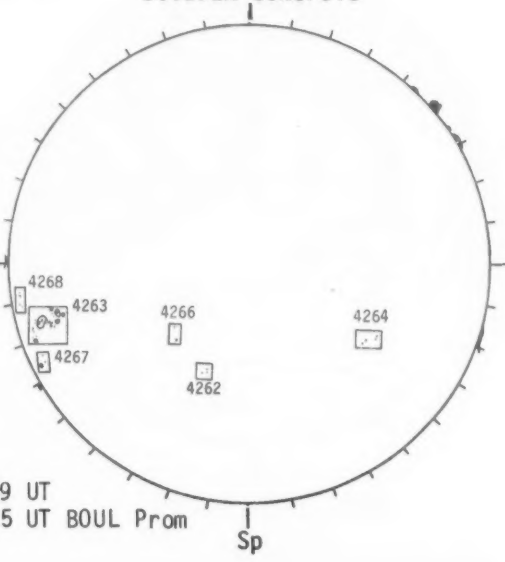
16.62 -
17.53 UT

BOULDER H-ALPHA



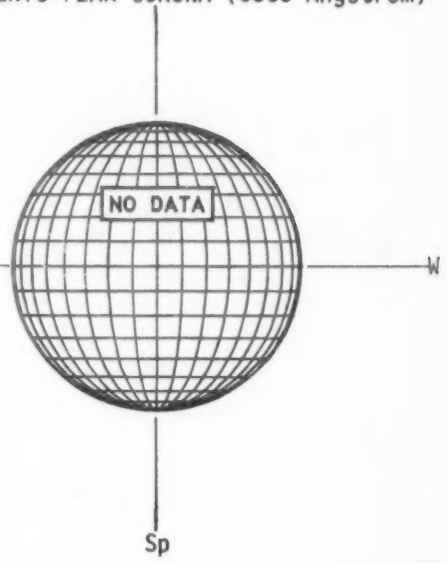
1435 UT

BOULDER SUNSPOTS



1239 UT
1435 UT BOUL Prom

SACRAMENTO PEAK CORONA (5303 Angstrom)



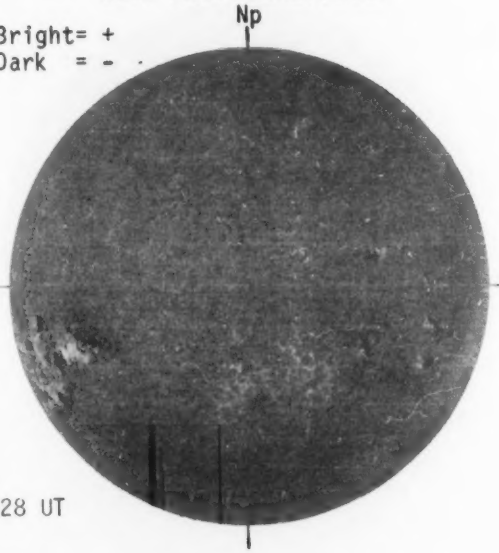
J U L 30, 1 9 8 3 (P=+ 9.79, B_o=+5.61, L_o= 346.84)

Sp Sp Sp

J U L 30, 1 9 8 3 (P=+ 9.79, B_0=+5.61, L_0= 346.84)

KITT PEAK MAGNETOGRAM

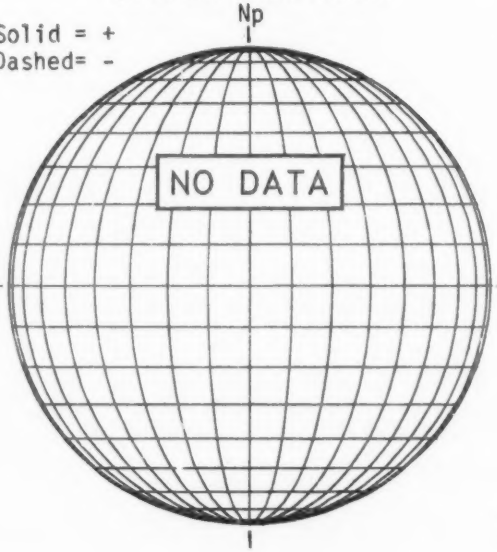
Bright= +
Dark = -



1928 UT

STANFORD MAGNETOGRAM

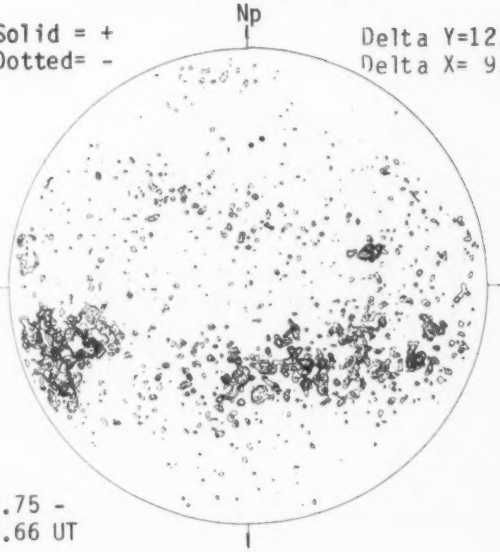
Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

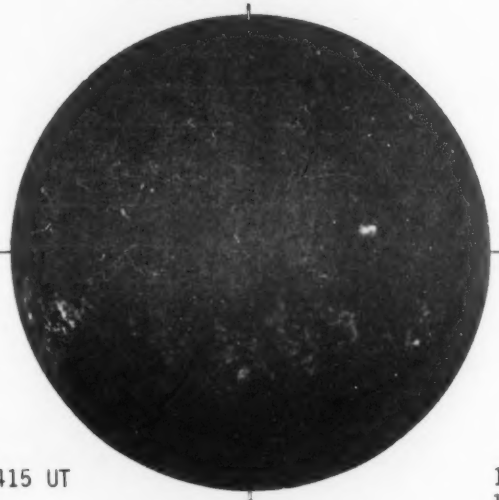
Solid = +
Dotted= -

Delta Y=12.7
Delta X= 9.6



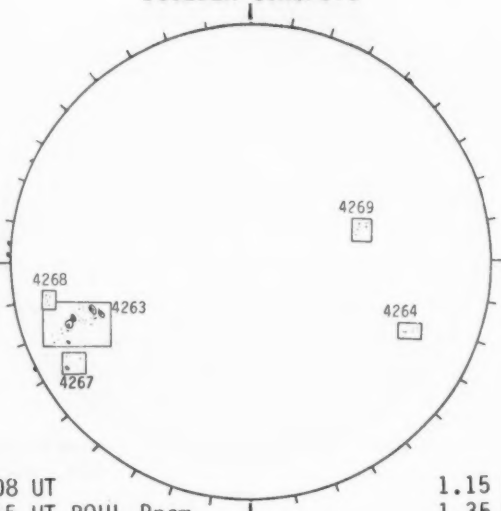
18.75 -
19.66 UT

BOULDER H-ALPHA



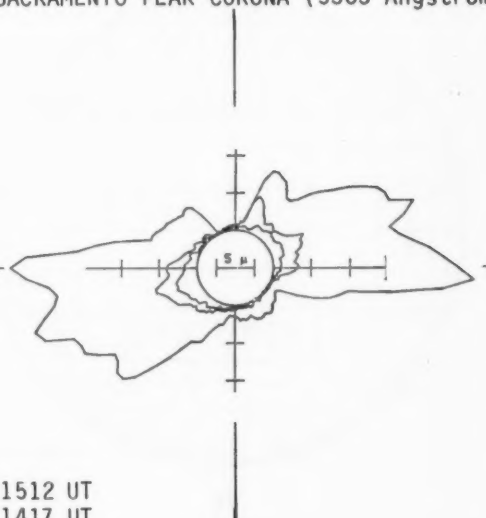
1415 UT

BOULDER SUNSPOTS



1308 UT
1415 UT BOUL Prom

SACRAMENTO PEAK CORONA (5303 Angstrom)



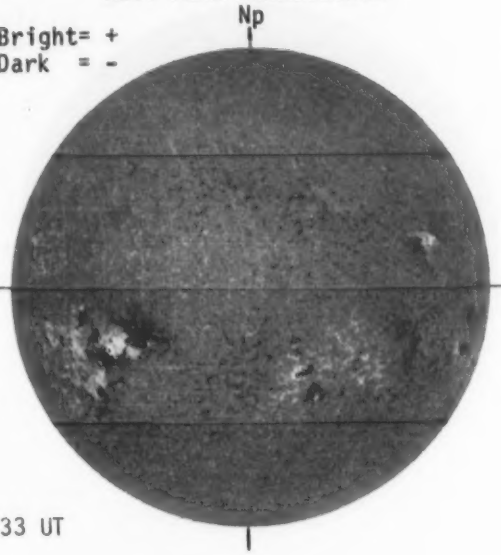
1.15 R_0 1512 UT
1.35 R_0 1417 UT
1.45 R_0 1503 UT

73
Jul 83

J U L 31, 1 9 8 3 (P=+10.20, B_0=+5.68, L_0= 333.61)

KITT PEAK MAGNETOGRAM

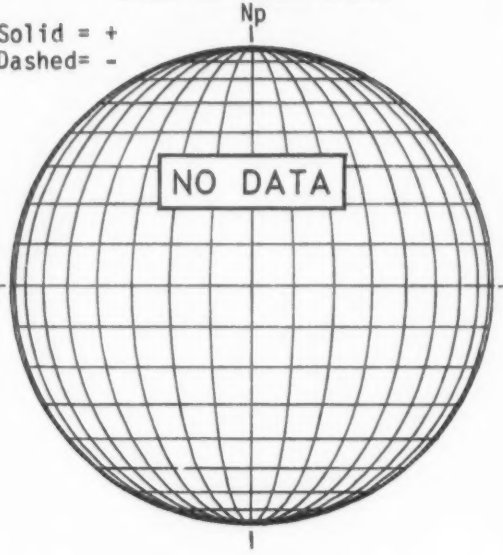
Bright= +
Dark = -



1733 UT

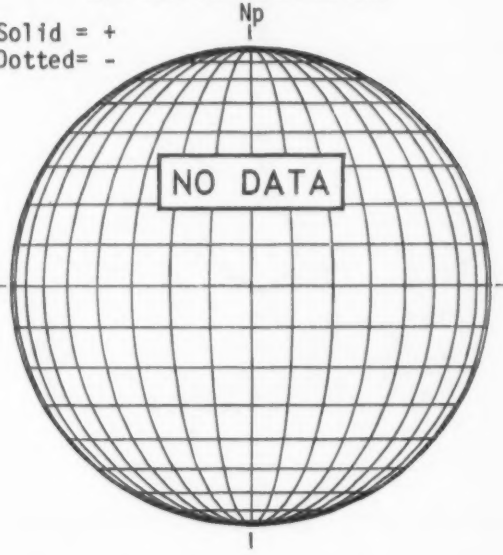
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

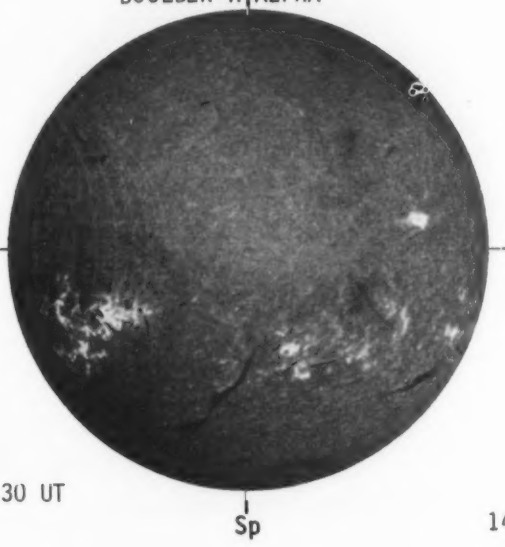


MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

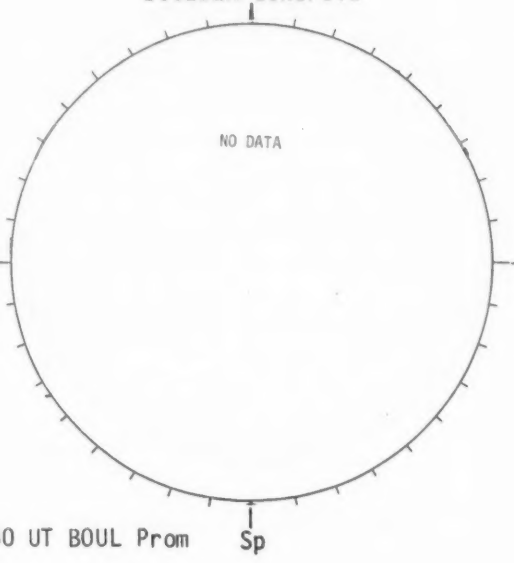


BOULDER H-ALPHA



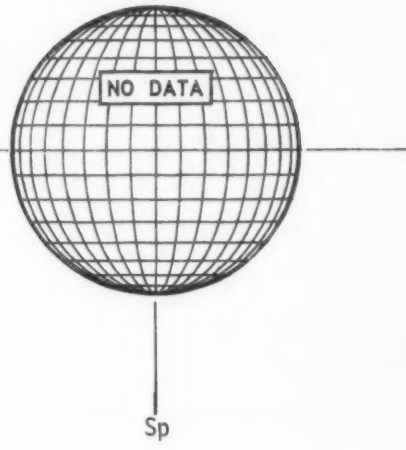
1430 UT

BOULDER SUNSPOTS



1430 UT BOUL Prom

SACRAMENTO PEAK CORONA (5303 Angstrom)



REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

JULY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	CMP Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
		PALE	06	29	1700	S22	E17	07	1.0		B	BXO	20	4	3	3
0001		HOLL	06	29	1653	S13	E17	07	1.0		B	BXO	10	4	3	4
0001	23734	MWIL	06	29	2100	S13	E15	07	1.0	3	(B)					
0001		MANI	06	30	0145	S13	E12	07	1.0			BXO	20	4	4	2
0001	23742	MWIL	07	04	1500	S12	W47	07	1.1	4	(B)					
4233		BOUL	07	01	1330	S04	W03	07	1.3		A	AXX	10	2	1	3
4233		PALE	07	01	1754	S04	W05	07	1.4		A	AXX	10	1	1	4
4233		LEAR	07	02	0040	S06	W11	07	1.2		A	AXX	10	3	2	3
4227		ATHN	06	26	0630	S12	E76	07	2.0			EAO	150	6	12	3
4227		LEAR	06	27	0026	S09	E65	07	1.9		B	EAO	330	16	14	3
4227		ATHN	06	27	0630	S10	E61	07	1.9		B	EAO	250	5	12	3
4227		RAMY	06	27	1110	S08	E58	07	1.8		BGD	EKO	320	12	11	3
4227		HOLL	06	27	1401	S09	E57	07	1.9		BG	EKO	300	14	13	3
4227		BOUL	06	27	1520	S10	E54	07	1.7		BGD	EKI	210	12	12	2
4227		PALE	06	27	1810	S09	E56	07	2.0		BG	EKI	260	23	14	3
4227		LEAR	06	28	0047	S09	E52	07	1.9		BGD	EKO	250	31	13	3
4227		ATHN	06	28	0800	S12	E46	07	1.8			EKO	310	10	13	3
4227		BOUL	06	28	1520	S10	E44	07	1.9		BGD	EKI	210	12	12	2
4227		PALE	06	28	1835	S09	E42	07	1.9		BGD	EHI	320	25	14	3
4227		MANI	06	28	2240	S09	E39	07	1.9			EHO	470	31	14	3
4227		LEAR	06	29	0140	S08	E39	07	2.0		BGD	EAO	280	19	12	3
4227		ATHN	06	29	0915	S09	E35	07	2.0		BGD	EAI	220	11	14	2
4227		RAMY	06	29	1245	S09	E32	07	1.9		BGD	EAO	230	27	15	4
4227		BOUL	06	29	1530	S08	E29	07	1.8		BGD	EKO	220	9	12	3
4227		HOLL	06	29	1653	S07	E29	07	1.9		BGD	EKO	160	18	13	4
4227		PALE	06	29	1700	S08	E30	07	2.0		BGD	EAO	220	15	12	3
4227		MANI	06	30	0145	S08	E26	07	2.0			EKO	350	27	13	2
4227		LEAR	06	30	0305	S09	E26	07	2.1		BGD	EAO	240	16	13	2
4227		ATHN	06	30	0650	S12	E27	07	2.3		BGD	EKO	260	10	13	3
4227		BOUL	06	30	1340	S08	E19	07	2.0		BGD	EAO	170	15	14	3
4227		RAMY	06	30	1410	S08	E18	07	1.9		BGD	FAO	230	22	17	4
4227		HOLL	06	30	1450	S08	E17	07	1.9		BGD	EKO	160	18	13	3
4227		PALE	06	30	1816	S08	E17	07	2.0		BGD	FAO	140	21	16	4
4227		LEAR	07	01	0035	S08	E14	07	2.1		BGD	EAO	190	15	12	3
4227		MANI	07	01	0050	S08	E15	07	2.2			FAO	330	23	16	3
4227		ATHN	07	01	0640	S09	E10	07	2.0		A	EAO	90	8	11	2
4227		RAMY	07	01	1325	S09	E08	07	2.2		BGD	FAO	160	24	19	3
4227		BOUL	07	01	1330	S08	E04	07	1.9		BGD	EKO	220	17	14	3
4227		PALE	07	01	1754	S08	E04	07	2.0		BGD	EAO	120	16	14	4
4227		LEAR	07	02	0040	S08	W01	07	2.0		BGD	EAO	120	23	12	3
4227		ATHN	07	02	0700	S09	W05	07	1.9		B	EHO	110	4	12	3
4227		RAMY	07	02	1245	S08	W07	07	2.0		BGD	EAO	100	19	14	4
4227		HOLL	07	02	1415	S08	W08	07	2.0		BGD	EAO	80	17	13	4
4227		PALE	07	02	1835	S08	W10	07	2.0		BGD	ESO	80	16	11	3
4227		LEAR	07	03	0048	S08	W15	07	1.9		BG	ESO	80	13	12	3
4227		RAMY	07	03	1300	S08	W22	07	1.9		BGD	EAO	60	12	12	2
4227		HOLL	07	03	1413	S08	W22	07	1.9		BG	CRO	30	8	13	3
4227		PALE	07	03	1730	S09	W23	07	2.0		BG	CSO	40	8	14	3
4227		MANI	07	03	2256	S09	W25	07	2.1			ESO	40	9	11	2
4227		LEAR	07	04	0150	S09	W26	07	2.1		BG	ESO	60	6	14	2
4227		HOLL	07	04	1417	S08	W34	07	2.0		B	BXO	30	6	14	2
4227		RAMY	07	04	1438	S08	W35	07	2.0		BG	EAO	40	7	14	1
4227		LEAR	07	05	0230	S08	W41	07	2.0		B	CRO	20	6	13	3
4227		LEAR	07	06	0146	S08	W53	07	2.1		B	BXO	10	3	12	4
4227		MANI	07	06	0355	S08	W55	07	2.0			BXO	20	3	12	3
4227A		RAMY	06	25	1305	S10	E78	07	1.4		A	HAX	60	1	1	3
4227A		HOLL	06	25	1445	S09	E78	07	1.5		A	HSX	120	1	1	3
4227A		BOUL	06	25	1510	S10	E77	07	1.4		A	HSX	60	2	1	2
4227A	23728	MWIL	06	25	1545	S08	E79	07	1.6	3	(AP)					
4227A		PALE	06	25	1954	S08	E76	07	1.5		A	HSX	20	1	1	2
4227A		LEAR	06	26	0657	S09	E69	07	1.5		A	HSX	30	1	2	2
4227A	23728	MWIL	06	26	1500	S08	E65	07	1.5	4	(AP)					
4227A	23728	MWIL	06	27	1500	S08	E52	07	1.5	5	(AP)					
4227A	23728	MWIL	06	28	1445	S08	E38	07	1.5	5	(AP)					
4227A	23728	MWIL	06	29	2100	S08	E23	07	1.6	4	(AP)					
4227A	23728	MWIL	06	30	1500	S07	E13	07	1.6	4	(AP)					
4227A	23728	MWIL	07	01	1530	S08	W01	07	1.6	5	(BP)					

REGIONS OF SUNSPOT ACTIVITY
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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4227A	23728	MWIL	07	02	1500	S08	W13	07	1.6	4	(AP)					
4227A	23728	MWIL	07	03	1445	S08	W27	07	1.6	4	(AP)					
4227A	23728	MWIL	07	04	1500	S09	W41	07	1.5	5	(AP)					
4227A		ATHN	07	05	0602	S10	W49	07	1.6		A	AXX	10	1	1	3
4227A		BOUL	07	05	1315	S08	W55	07	1.4		A	AXX	20	1	1	3
4227A	23728	MWIL	07	05	1530	S08	W54	07	1.6	4	(AP)					
4227A		HOLL	07	05	1541	S08	W54	07	1.6		A	AXX		1	1	3
4227A		PALE	07	05	1835	S08	W55	07	1.6		B	BXO	20	3	3	3
4227A	23728	MWIL	07	06	1515	S08	W65	07	1.8	3	(AP)					
4227B		LEAR	06	26	0657	S09	E81	07	2.4		B	DAI	310	5	7	2
4227B	23730	MWIL	06	26	1500	S09	E78	07	2.5	3	(BF)					
4227B	23730	MWIL	06	27	1500	S08	E63	07	2.4	4	(D)					
4227B	23730	MWIL	06	28	1445	S09	E50	07	2.4	5	(D)					
4227B	23730	MWIL	06	29	2100	S09	E33	07	2.4	5	(D)					
4227B	23730	MWIL	06	30	1500	S08	E24	07	2.4	5	(D)					
4227B		BOUL	07	01	1330	S08	E15	07	2.7		A	AXX	10	2	1	3
4227B	23730	MWIL	07	01	1530	S09	E09	07	2.3	5	(D)					
4227B	23730	MWIL	07	02	1500	S09	W03	07	2.4	4	(BY)					
4227B		ATHN	07	03	0630	S10	W12	07	2.4			EAO	130	11	13	3
4227B		BOUL	07	03	1335	S10	W17	07	2.3		A	CSI	40	3	2	2
4227B	23730	MWIL	07	03	1445	S08	W16	07	2.4	4	(BY)					
4227B	23730	MWIL	07	04	1500	S08	W30	07	2.4	4	(BY)					
4227B	23730	MWIL	07	05	1530	S08	W44	07	2.3	3	(B)					
4227B	23730	MWIL	07	06	1515	S06	W55	07	2.5	3	(AP)					
	23741	MWIL	07	03	1445	S13	W12	07	2.7	3	(AF)					
4230		BOUL	06	27	1520	S18	E71	07	3.0		B	CSO	50	4	7	2
4230		PALE	06	27	1810	S18	E78	07	3.7		B	BXO	10	2	8	3
4230		LEAR	06	28	0047	S18	E71	07	3.4		B	BXO	10	3	3	3
4230	23733	MWIL	06	28	1445	S18	E62	07	3.3	4	(B)					
4230		BOUL	06	28	1520	S18	E61	07	3.3		B	CSO	50	4	7	2
4230		PALE	06	28	1835	S18	E61	07	3.4		B	CSO	80	9	9	3
4230		MANI	06	28	2240	S18	E59	07	3.4			CSO	150	11	9	3
4230		LEAR	06	29	0140	S18	E57	07	3.4		B	DAO	150	10	8	3
4230		ATHN	06	29	0915	S19	E51	07	3.2		B	DKO	200	8	9	2
4230		RAMY	06	29	1245	S19	E52	07	3.5		B	DKO	200	9	10	4
4230		BOUL	06	29	1530	S18	E48	07	3.3		B	DKO	210	5	9	3
4230		HOLL	06	29	1653	S18	E48	07	3.4		B	CKO	240	8	10	4
4230		PALE	06	29	1700	S17	E48	07	3.4		B	DSO	170	5	8	3
4230	23733	MWIL	06	29	2100	S18	E45	07	3.3	5	(B)					
4230		MANI	06	30	0145	S18	E45	07	3.5			CKO	410	9	10	2
4230		LEAR	06	30	0305	S18	E42	07	3.3		B	CHO	250	9	10	2
4230		ATHN	06	30	0650	S22	E35	07	3.0		B	DHO	200	5	9	3
4230		RAMY	06	30	1410	S18	E36	07	3.3		B	DKO	220	13	11	4
4230		HOLL	06	30	1450	S17	E37	07	3.4		B	ESO	230	11	11	3
4230	23733	MWIL	06	30	1500	S18	E34	07	3.2	5	(B)					
4230		PALE	06	30	1816	S18	E35	07	3.4		B	CAO	220	16	10	4
4230		LEAR	07	01	0035	S18	E30	07	3.3		B	DAO	220	8	10	3
4230		MANI	07	01	0050	S18	E32	07	3.5			CHO	320	11	10	3
4230		ATHN	07	01	0640	S20	E21	07	2.9		B	CHO	120	3	3	2
4230		RAMY	07	01	1325	S19	E23	07	3.3		B	EAO	180	14	11	3
4230		BOUL	07	01	1330	S18	E22	07	3.2		B	CSO	140	8	11	3
4230	23733	MWIL	07	01	1530	S19	E21	07	3.2	5	(BP)					
4230		PALE	07	01	1754	S18	E23	07	3.5		B	CKO	220	7	10	4
4230		LEAR	07	02	0040	S18	E18	07	3.4		B	CSO	200	7	10	3
4230		ATHN	07	02	0700	S20	E09	07	3.0		A	HSX	100	2	2	3
4230		RAMY	07	02	1245	S19	E07	07	3.1		B	CAO	170	13	4	4
4230		HOLL	07	02	1415	S18	E10	07	3.4		B	CSO	210	7	8	4
4230	23733	MWIL	07	02	1500	S19	E07	07	3.2	5	(BP)					
4230		PALE	07	02	1835	S18	E08	07	3.4		B	CSO	180	9	9	3
4230		LEAR	07	03	0048	S18	E03	07	3.3		B	DSO	220	6	9	3
4230		ATHN	07	03	0630	S18	W06	07	2.8			CHO	140	6	8	3
4230		RAMY	07	03	1300	S19	W07	07	3.0		B	CAO	130	5	3	2
4230		BOUL	07	03	1335	S21	W09	07	2.9		BG	HSX	110	1	4	2
4230		HOLL	07	03	1413	S18	W04	07	3.3		B	CSO	180	5	7	3
4230	23733	MWIL	07	03	1445	S19	W07	07	3.1	5	(BP)					
4230		PALE	07	03	1730	S18	W06	07	3.3		B	CSO	160	4	7	3
4230		MANI	07	03	2256	S18	W10	07	3.2			CSO	320	4	7	2
4230		HOLL	07	04	1417	S19	W17	07	3.3		B	CAO	150	2	8	2

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4230		RAMY	07	04	1438	S19	W21	07	3.0		A	HKX	210	1	3	1
4230	23733	MWIL	07	04	1500	S19	W20	07	3.1	5	(BP)					
4230		LEAR	07	05	0230	S19	W28	07	3.0		A	HHX	200	1	3	3
4230		ATHN	07	05	0602	S20	W28	07	3.1		A	HHX	190	1	4	3
4230		BOUL	07	05	1315	S18	W35	07	2.9		A	HHX	210	1	3	3
4230	23733	MWIL	07	05	1530	S19	W33	07	3.1	5	(BP)					
4230		HOLL	07	05	1541	S19	W34	07	3.1		A	CHO	160	3	3	3
4230		PALE	07	05	1835	S19	W36	07	3.0		A	HSX	110	1	2	3
4230		LEAR	07	06	0146	S19	W38	07	3.2		B	CSO	210	2	8	4
4230		MANI	07	06	0355	S19	W38	07	3.3			CSO	250	4	8	3
4230		BOUL	07	06	1410	S18	W47	07	3.0		B	CHO	220	2	4	3
4230	23733	MWIL	07	06	1515	S19	W47	07	3.0	5	(BP)					
4230		HOLL	07	06	1559	S20	W48	07	3.0		B	CSO	150	2	3	3
4230		PALE	07	06	1955	S20	W49	07	3.1		B	CSO	120	2	3	3
4230		LEAR	07	07	0156	S19	W53	07	3.0		B	CSO	160	3	4	4
4230		ATHN	07	07	0630	S19	W56	07	3.0		A	HHX	110	1	3	3
4230		RAMY	07	07	1250	S19	W59	07	3.0		A	HAX	200	1	2	2
4230		BOUL	07	07	1324	S18	W61	07	2.9		A	HHX	140	1	4	3
4230	23733	MWIL	07	07	1500	S19	W60	07	3.0	5	(AP)					
4230		HOLL	07	07	1825	S18	W63	07	3.0		A	HSX	200	1	2	1
4230		PALE	07	07	2250	S19	W66	07	2.9		A	HHX	240	7	3	2
4230		LEAR	07	08	0339	S18	W67	07	3.0		A	HHX	190	1	3	3
4230	23733	MWIL	07	08	1500	S19	W73	07	3.0	5	(AP)					
4230		PALE	07	08	2226	S19	W78	07	3.0		A	HSX	150	1	2	2
4230		MANI	07	08	2310	S18	W80	07	2.9			HSX	220	1	2	3
4230		LEAR	07	09	0210	S18	W79	07	3.1		A	HSX	150	1	2	2
		HOLL	07	07	1825	S10	W10	07	7.0		A	AXX		0		1
0003		ATHN	07	07	0630	S14	E03	07	7.5		A	AXX	10	1	1	3
0003		RAMY	07	07	1250	S14	W02	07	7.4		A	AXX		1		2
0003	23747	MWIL	07	07	1500	S14	W03	07	7.4	2	(AP)					
0003		HOLL	07	07	1825	S14	W04	07	7.5		A	AXX		2	2	1
4238	23736	MWIL	07	01	1530	S07	E80	07	7.6	2	AP					
4238	23736	MWIL	07	02	1500	S07	E66	07	7.6	3	(AP)					
4238		LEAR	07	06	0146	S09	E20	07	7.6		A	AXX		2	2	4
4238		LEAR	07	08	0339	S08	W08	07	7.6		B	BXO	30	7	4	3
4238		LEAR	07	09	0210	S08	W21	07	7.5		B	BXO	30	8	3	2
4238		ATHN	07	09	0800	S08	W22	07	7.7		A	BXO	20	3	3	3
4238		LEAR	07	10	0210	S07	W33	07	7.6		B	BXO	10	2	3	2
4235		RAMY	07	01	1325	S22	E79	07	7.6		A	HSX	30	1	1	3
4235	23737	MWIL	07	01	1530	S19	E80	07	7.8	2	AP					
4235		PALE	07	01	1754	S20	E80	07	7.9		A	HRX	20	1	1	4
4235		LEAR	07	02	0040	S20	E76	07	7.8		B	CSO	60	3	4	3
4235		RAMY	07	02	1245	S22	E69	07	7.8		B	DAO	130	7	6	4
4235		HOLL	07	02	1415	S19	E69	07	7.9		B	DSO	110	10	9	4
4235	23737	MWIL	07	02	1500	S20	E67	07	7.8	3	(BF)					
4235		PALE	07	02	1835	S20	E68	07	8.0		B	DSO	270	14	8	3
4235		LEAR	07	03	0048	S20	E64	07	7.9		B	EAO	310	13	11	3
4235		ATHN	07	03	0630	S15	E62	07	8.0			EKO	330	6	14	3
4235		RAMY	07	03	1300	S21	E56	07	7.8		B	EKO	610	21	11	2
4235		BOUL	07	03	1335	S22	E53	07	7.6		BGD	DSI	200	7	9	2
4235		HOLL	07	03	1413	S20	E55	07	7.8		BD	DKI	370	21	10	3
4235	23737	MWIL	07	03	1445	S20	E55	07	7.8	5	(D)					
4235		PALE	07	03	1730	S19	E53	07	7.8		BGD	EKI	450	18	11	3
4235		MANI	07	03	2256	S20	E49	07	7.7			EKI	370	26	11	2
4235		LEAR	07	04	0150	S20	E50	07	7.9		BG	EKO	350	11	12	2
4235		HOLL	07	04	1417	S19	E42	07	7.8		BGD	EAI	430	20	12	2
4235		RAMY	07	04	1438	S21	E42	07	7.8		BGD	EAI	350	27	12	1
4235	23737	MWIL	07	04	1500	S20	E41	07	7.8	5	(D)					
4235		LEAR	07	05	0230	S20	E34	07	7.7		BGD	EKI	430	39	12	3
4235		ATHN	07	05	0602	S21	E32	07	7.7			EAO	310	16	14	3
4235		BOUL	07	05	1315	S19	E27	07	7.6		BG	ESI	300	30	13	3
4235	23737	MWIL	07	05	1530	S20	E28	07	7.8	5	(BY)					
4235		HOLL	07	05	1541	S19	E26	07	7.6		B	ESI	320	38	15	3
4235		PALE	07	05	1835	S20	E26	07	7.8		BG	EAI	260	19	13	3
4235		LEAR	07	06	0146	S20	E21	07	7.7		BG	EAI	390	36	14	4
4235		MANI	07	06	0355	S20	E20	07	7.7			EAI	430	35	14	3
4235		BOUL	07	06	1410	S22	E13	07	7.6		BG	EAI	270	29	13	3

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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4235	23737	MWIL	07	06	1515	S19	E14	07	7.7	5	(D)					
4235		HOLL	07	06	1559	S21	E14	07	7.7		B	ESI	420	47	14	3
4235		PALE	07	06	1955	S20	E13	07	7.8		B	ESI	290	30	13	3
4235		LEAR	07	07	0156	S18	E08	07	7.7		BG	ESI	440	43	14	4
4235		ATHN	07	07	0630	S20	E04	07	7.6		BG	ESI	260	14	12	3
4235		RAMY	07	07	1250	S20	E02	07	7.7		BG	EAO	250	22	14	2
4235		BOUL	07	07	1324	S19	E03	07	7.8		B	ESI	320	20	12	3
4235	23737	MWIL	07	07	1500	S20	E02	07	7.8	5	(D)					
4235		HOLL	07	07	1825	S20	W01	07	7.7		B	ESO	340	25	13	1
4235		PALE	07	07	2250	S19	W03	07	7.7		B	ESO	280	17	13	2
4235		LEAR	07	08	0339	S20	W06	07	7.7		B	ESI	300	21	13	3
4235	23737	MWIL	07	08	1500	S21	W12	07	7.7	5	(BY)					
4235		PALE	07	08	2226	S20	W13	07	7.9		B	FKO	250	14	16	2
4235		MANI	07	08	2310	S20	W16	07	7.7			EKO	370	25	14	3
4235		LEAR	07	09	0210	S20	W18	07	7.7		B	EKO	330	12	14	2
4235		ATHN	07	09	0800	S19	W28	07	7.2		B	EKO	300	12	12	3
4235		RAMY	07	09	1243	S20	W26	07	7.5		BD	EKO	290	15	13	3
4235		HOLL	07	09	1411	S20	W25	07	7.7		B	DKO	350	15	13	2
4235	23737	MWIL	07	09	1530	S21	W26	07	7.7	5	(B)					
4235		BOUL	07	09	1535	S18	W26	07	7.7		B	CKO	260	11	13	3
4235		PALE	07	09	1920	S20	W27	07	7.7		BG	CKO	280	12	13	2
4235		MANI	07	10	0040	S20	W30	07	7.7			EKO	290	22	12	2
4235		LEAR	07	10	0210	S20	W32	07	7.6		BG	EHO	280	16	14	2
4235		ATHN	07	10	0655	S20	W36	07	7.5		BG	EKO	180	4	13	2
4235		RAMY	07	10	1250	S20	W37	07	7.7		BG	EKO	320	23	13	3
4235		BOUL	07	10	1315	S20	W37	07	7.7		BG	CKO	250	11	13	3
4235		HOLL	07	10	1525	S20	W38	07	7.7		BG	EHO	310	14	13	3
4235	23737	MWIL	07	10	1600	S21	W38	07	7.8	5	(B)					
4235		PALE	07	10	2025	S20	W41	07	7.7		BG	EKO	330	27	13	3
4235		LEAR	07	11	0134	S18	W47	07	7.5		B	EHO	390	13	12	2
4235		ATHN	07	11	0610	S20	W46	07	7.7			EHO	210	11	12	1
4235		MANI	07	11	0634	S20	W46	07	7.8			EHO	510	11	13	3
4235		RAMY	07	11	1218	S20	W48	07	7.8		BG	EKO	430	28	13	4
4235		BOUL	07	11	1420	S18	W51	07	7.7		BG	EKO	320	21	13	3
4235		HOLL	07	11	1456	S20	W51	07	7.7		BG	EHO	400	20	13	3
4235	23737	MWIL	07	11	1500	S20	W50	07	7.8	5	(D)					
4235		PALE	07	11	1730	S20	W52	07	7.7		BG	EHI	460	21	13	3
4235		MANI	07	11	2304	S20	W56	07	7.7			EHI	1050	22	15	3
4235		LEAR	07	12	0043	S17	W58	07	7.6		BG	EKI	400	18	12	3
4235		BOUL	07	12	1227	S22	W63	07	7.7		BD	EKI	260	18	14	2
4235		HOLL	07	12	1445	S22	W64	07	7.7		BG	EKO	470	16	15	3
4235	23737	MWIL	07	12	1530	S20	W61	07	8.0	5	(B)					
4235		PALE	07	12	1846	S20	W66	07	7.7		BG	EKO	650	13	14	3
4235		ATHN	07	13	0600	S21	W70	07	7.9		BG	EKO	280	3	11	3
4235		BOUL	07	13	1245	S21	W76	07	7.7		B	EKO	360	4	11	2
4235	23737	MWIL	07	13	1515	S20	W73	07	8.0	3	(B)					
4235		HOLL	07	13	1851	S21	W76	07	8.0		B	CKO	280	5	7	2
4235		LEAR	07	14	0117	S19	W79	07	8.0		A	HKX	420	3	3	2
4235		MANI	07	14	0350	S19	W81	07	8.0			HKX	310	3	3	2
4235		ATHN	07	14	0615	S17	W81	07	8.1		A	HSX	50	1	1	3
4235		RAMY	07	14	1258	S18	W86	07	8.0		B	CAO	60	2	10	3
4235		HOLL	07	14	1442	S19	W85	07	8.1		A	HSX	50	1	2	3
4235	23737	MWIL	07	14	1500	S19	W85	07	8.1	2	(AP)					
4234		RAMY	07	01	1325	S09	E80	07	7.6		A	HSX	30	1	1	3
4234		PALE	07	01	1754	S08	E80	07	7.7		A	AXX	10	1	1	4
4234		LEAR	07	02	0040	S08	E75	07	7.7		A	AXX	10	1		3
4234		RAMY	07	02	1245	S09	E69	07	7.7		A	AXX	30	3	2	4
4234		HOLL	07	02	1415	S08	E74	07	8.1		B	BXO	10	5	12	4
4234		PALE	07	02	1835	S08	E72	07	8.2		B	BXO	20	4	13	3
4234		MANI	07	02	2256	S08	E69	07	8.1			BXX	60	2	1	3
4234		LEAR	07	03	0048	S12	E71	07	8.4		B	CSO	50	3	6	3
4234		BOUL	07	03	1335	S13	E63	07	8.4		B	BXO	50	2	6	2
4234		HOLL	07	03	1413	S10	E67	07	8.6		B	BXO	20	4	6	3
4234		PALE	07	03	1730	S09	E64	07	8.5		B	BXO	30	4	6	3
4234		MANI	07	03	2256	S09	E60	07	8.5			CSO	60	8	6	2
4234		LEAR	07	04	0150	S11	E62	07	8.7		B	CSO	30	4	8	2
4234		HOLL	07	04	1417	S09	E49	07	8.3		B	BXO	20	3	5	2
4234		RAMY	07	04	1438	S12	E56	07	8.8		B	CAO	50	8	8	1
4234		LEAR	07	05	0230	S11	E44	07	8.4		B	BXO	10	4	4	3
4234		BOUL	07	05	1315	S11	E33	07	8.0		B	BXO	10	4	13	3

REGIONS OF SUNSPOT ACTIVITY
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JULY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4234	23744	MWIL	07	05	1530	S10	E31	07	8.0	4	(B)					
4234		HOLL	07	05	1541	S09	E32	07	8.1		B	BXO	60	10	14	3
4234		PALE	07	05	1835	S09	E30	07	8.0		B	BXO	30	7	10	3
4234		LEAR	07	06	0146	S11	E30	07	8.3		B	DSO	40	13	8	4
4234		MANI	07	06	0355	S11	E20	07	7.7			BXO	20	9	6	3
4234		BOUL	07	06	1410	S13	E21	07	8.2		B	BXO	40	9	9	3
4234	23744	MWIL	07	06	1515	S10	E18	07	8.0	4	(BP)					
4234		HOLL	07	06	1559	S11	E22	07	8.3		B	BXO	50	10	9	3
4234		PALE	07	06	1955	S12	E20	07	8.3		B	BXO	30	10	8	3
4234		LEAR	07	07	0156	S11	E16	07	8.3		B	BXO	30	6	8	4
4234		ATHN	07	07	0630	S11	E09	07	7.9		B	BXO	20	2	1	3
4234		BOUL	07	07	1324	S10	E13	07	8.5		B	BXO	30	8	4	3
4234	23744	MWIL	07	07	1500	S10	E12	07	8.5	3	(BF)					
4234		HOLL	07	07	1825	S08	E10	07	8.5		B	BXO	30	15	8	1
4234		PALE	07	07	2250	S10	E05	07	8.3		B	BXO	30	8	6	2
4234		LEAR	07	08	0339	S11	E03	07	8.4		B	BXO	50	12	6	3
4234	23744	MWIL	07	08	1500	S10	W04	07	8.3	4	(B)					
4234		PALE	07	08	2226	S09	W10	07	8.2		B	BXO	30	6	14	2
4234		MANI	07	08	2310	S10	W12	07	8.1			BXO	30	17	15	3
4234		LEAR	07	09	0210	S11	W08	07	8.5		B	BXO	30	6	4	2
4234		HOLL	07	09	1411	S09	W22	07	7.9		B	BXO	20	18	13	2
4234	23744	MWIL	07	09	1530	S10	W21	07	8.1	3	(BY)					
4234		BOUL	07	09	1535	S10	W20	07	8.1		B	BXO	30	10	14	3
4234		PALE	07	09	1920	S09	W23	07	8.1		BG	BXO	30	11	14	2
4234		MANI	07	10	0040	S09	W26	07	8.1			BXO	20	9	14	2
4234		LEAR	07	10	0210	S10	W21	07	8.5		B	BXO	20	5	3	2
4234		RAMY	07	10	1250	S08	W34	07	8.0		BG	BXO	20	9	13	3
4234		BOUL	07	10	1315	S09	W33	07	8.1		B	BXO	20	7	13	3
4234		HOLL	07	10	1525	S08	W33	07	8.2		B	BXO	30	7	13	3
4234	23744	MWIL	07	10	1600	S10	W32	07	8.3	3	(BF)					
4234		PALE	07	10	2025	S10	W32	07	8.4		B	BXO	20	6	4	3
4234		LEAR	07	11	0134	S08	W36	07	8.4		A	AXX		1		2
4234		RAMY	07	11	1218	S11	W45	07	8.1		B	BXO	20	6	10	4
4234	23744	MWIL	07	11	1500	S11	W42	07	8.5	2	(AF)					
4236	23740	MWIL	07	02	1500	S11	E78	07	8.5	2	(AP)					
4236		HOLL	07	03	1413	S13	E75	07	9.3		A	AXX		2	2	3
4236	23740	MWIL	07	03	1445	S11	E69	07	8.8	3	(B)					
4236		PALE	07	03	1730	S12	E75	07	9.4		B	BXO	20	2	3	3
4236		MANI	07	03	2256	S12	E71	07	9.3			BXO	70	4	3	2
4236		LEAR	07	04	0150	S11	E65	07	9.0		B	CSO	30	3	5	2
4236		HOLL	07	04	1417	S11	E60	07	9.1		B	DSO	110	12	9	2
4236		RAMY	07	04	1438	S13	E63	07	9.4		B	DAO	70	8	5	1
4236	23740	MWIL	07	04	1500	S12	E58	07	9.0	5	(BY)					
4236		LEAR	07	05	0230	S12	E52	07	9.0		B	ESO	160	15	11	3
4236		ATHN	07	05	0602	S11	E46	07	8.7		B	DRO	50	7	10	3
4236		BOUL	07	05	1315	S13	E46	07	9.0		B	CSI	150	15	11	3
4236	23740	MWIL	07	05	1530	S12	E44	07	9.0	5	(B)					
4236		HOLL	07	05	1541	S11	E43	07	8.9		B	DAO	170	17	8	3
4236		PALE	07	05	1835	S11	E43	07	9.0		B	CSO	80	10	11	3
4236		LEAR	07	06	0146	S12	E39	07	9.0		B	ESO	130	20	11	4
4236		MANI	07	06	0355	S12	E34	07	8.7			FSO	220	29	17	3
4236		BOUL	07	06	1410	S13	E28	07	8.7		B	CSI	120	9	6	3
4236	23740	MWIL	07	06	1515	S10	E29	07	8.8	5	(BP)					
4236		HOLL	07	06	1559	S11	E32	07	9.1		B	CSO	120	12	11	3
4236		PALE	07	06	1955	S11	E29	07	9.0		B	CSO	100	12	7	3
4236		LEAR	07	07	0156	S11	E26	07	9.0		B	CAI	140	19	10	4
4236		ATHN	07	07	0630	S11	E20	07	8.8		B	DAO	130	12	9	3
4236		RAMY	07	07	1250	S12	E18	07	8.9		B	EAO	160	26	12	2
4236		BOUL	07	07	1324	S10	E18	07	8.9		B	CAI	130	19	10	3
4236	23740	MWIL	07	07	1500	S10	E17	07	8.9	4	(B)					
4236		HOLL	07	07	1825	S11	E14	07	8.8		B	DAO	120	12	7	1
4236		PALE	07	07	2250	S12	E11	07	8.8		B	CKO	200	16	7	2
4236		LEAR	07	08	0339	S11	E12	07	9.1		B	CKI	160	18	8	3
4236	23740	MWIL	07	08	1500	S11	E03	07	8.9	5	(BP)					
4236		PALE	07	08	2226	S11	E01	07	9.0		B	CAO	140	15	7	2
4236		MANI	07	08	2310	S12	W02	07	8.8			CAO	150	22	10	3
4236		LEAR	07	09	0210	S11	W02	07	8.9		B	CSI	160	21	6	2
4236		ATHN	07	09	0800	S10	W09	07	8.7		B	DSO	140	12	7	3
4236		RAMY	07	09	1243	S10	W09	07	8.9		B	CAO	100	15	6	3
4236		HOLL	07	09	1411	S11	W09	07	8.9		B	CAO	100	16	6	2

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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4236	23740	MWIL	07	09	1530	S11	W10	07	8.9	4	(BP)					
4236		BOUL	07	09	1535	S11	W10	07	8.9		B	CAO	160	12	7	3
4236		PALE	07	09	1920	S10	W11	07	9.0		B	CAO	110	17	7	2
4236		MANI	07	10	0040	S10	W15	07	8.9			CAO	120	12	8	2
4236		LEAR	07	10	0210	S11	W16	07	8.9		B	CSO	120	11	5	2
4236		ATHN	07	10	0655	S11	W19	07	8.9		B	DSO	100	9	10	2
4236		RAMY	07	10	1250	S11	W21	07	9.0		B	CAO	90	9	5	3
4236		BOUL	07	10	1315	S10	W22	07	8.9		B	CAO	100	7	6	3
4236		HOLL	07	10	1525	S11	W23	07	8.9		B	CAO	110	6	6	3
4236	23740	MWIL	07	10	1600	S11	W24	07	8.9	4	(BP)					
4236		PALE	07	10	2025	S11	W26	07	8.9		B	CAO	110	6	3	3
4236		LEAR	07	11	0134	S09	W32	07	8.7		A	HSX	60	1	1	2
4236		ATHN	07	11	0610	S11	W32	07	8.8		A	HSX	50	1	2	1
4236		MANI	07	11	0634	S11	W34	07	8.7			HSX	140	1	2	3
4236		RAMY	07	11	1218	S11	W34	07	9.0		B	CAO	80	14	6	4
4236		BOUL	07	11	1420	S11	W35	07	9.0		B	DAO	90	5	8	3
4236		HOLL	07	11	1456	S10	W35	07	9.0		B	CSO	60	5	6	3
4236	23740	MWIL	07	11	1500	S11	W36	07	8.9	4	(BP)					
4236		PALE	07	11	1730	S10	W37	07	8.9		B	DSO	50	8	5	3
4236		MANI	07	11	2304	S10	W41	07	8.9			DSO	170	10	5	3
4236		LEAR	07	12	0043	S08	W41	07	9.0		B	DSO	140	4	7	3
4236		BOUL	07	12	1227	S11	W46	07	9.1		B	BXI	60	8	8	2
4236		HOLL	07	12	1445	S11	W48	07	9.0		B	DAO	70	8	8	3
4236	23740	MWIL	07	12	1530	S12	W47	07	9.1	5	(B)					
4236		PALE	07	12	1846	S11	W52	07	8.9		B	CAO	60	5	8	3
4236		ATHN	07	13	0600	S14	W55	07	9.1		B	DAO	70	5	10	3
4236		BOUL	07	13	1245	S10	W60	07	9.0		B	CSO	60	5	7	2
4236	23740	MWIL	07	13	1515	S11	W61	07	9.0	4	(B)					
4236		HOLL	07	13	1851	S11	W64	07	9.0		B	DSO	90	4	8	2
4236		LEAR	07	14	0117	S10	W68	07	8.9		A	DSO	30	6	7	2
4236		MANI	07	14	0350	S10	W70	07	8.9			DSO	190	6	7	2
4236		ATHN	07	14	0615	S12	W68	07	9.1		A	AXX	30	1	1	3
4236		BOUL	07	14	1235	S12	W74	07	8.9		B	CRO	60	3	8	3
4236		RAMY	07	14	1258	S08	W74	07	9.0		B	CAO	60	5	8	3
4236		HOLL	07	14	1442	S11	W75	07	9.0		B	CSO	50	3	8	3
4236	23740	MWIL	07	14	1500	S11	W75	07	9.0	3	(B)					
4236		PALE	07	14	2220	S10	W80	07	8.9		B	CSO	120	2	7	3
4236		LEAR	07	15	0124	S11	W79	07	9.1		A	HSX	70	1	2	2
4236		ATHN	07	15	0610	S10	W86	07	8.8		B	CSO	60	2	8	3
4236		RAMY	07	15	1256	S10	W88	07	8.9		A	HSX	40	1	1	4
		RAMY	07	07	1250	S14	E28	07	9.7		B	BXO	10	2	5	2
0004	23745A	MWIL	07	05	1530	S08	E69	07	10.8	3	(AP)					
0004		LEAR	07	08	0339	S08	E36	07	10.9		A	AXX	10	3	2	3
0005		RAMY	07	09	1243	N05	E18	07	10.9		B	BXO	10	3	3	3
0005		HOLL	07	09	1411	N06	E17	07	10.9		B	BXO	10	3	3	2
0005	23748A	MWIL	07	09	1530	N07	E17	07	10.9	2	(B)					
4242	23749	MWIL	07	11	1500	N07	E03	07	11.8	3	(AF)					
4242		PALE	07	11	1730	N08	E02	07	11.9		A	AXX		1		3
4242		MANI	07	11	2304	N08	W02	07	11.8			BXO	30	2	3	3
4242		LEAR	07	12	0043	N08	W04	07	11.7		A	AXX		2	2	3
4242		HOLL	07	12	1445	N07	W11	07	11.8		A	AXX		1		3
4242	23749	MWIL	07	12	1530	N07	W11	07	11.8	3	(AF)					
4242		PALE	07	12	1846	N07	W13	07	11.8		B	BXO	10	2	3	3
0006	23745B	MWIL	07	06	1515	S01	E74	07	12.2	2	(AP)					
0006		LEAR	07	08	0339	S01	E55	07	12.3		A	AXX		1		3
4237		LEAR	07	06	0146	S15	E84	07	12.4		A	HHX	150	1	4	4
4237		MANI	07	06	0355	S15	E83	07	12.5			HHX	440	1	3	3
4237		BOUL	07	06	1410	S20	E79	07	12.6		A	HHX	140	1	3	3
4237	23746	MWIL	07	06	1515	S15	E77	07	12.5	5	(BP)					
4237		HOLL	07	06	1559	S15	E75	07	12.3		A	HHX	150	1	4	3
4237		PALE	07	06	1955	S15	E76	07	12.6		A	HHX	220	1	4	3
4237		LEAR	07	07	0156	S15	E69	07	12.3		B	CHO	250	4	6	4
4237		ATHN	07	07	0630	S16	E67	07	12.4		A	HSX	150	1	2	3
4237		RAMY	07	07	1250	S17	E67	07	12.6		B	CHO	320	6	4	2
4237		BOUL	07	07	1324	S16	E66	07	12.6		A	HHX	180	4	5	3

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

JULY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4237	23746	MWIL	07	07	1500	S15	E65	07	12.5	5	(AP)					
4237		HOLL	07	07	1825	S16	E64	07	12.6		A	HKX	190	2	3	1
4237		PALE	07	07	2250	S15	E60	07	12.5		A	HHX	210	1	3	2
4237		LEAR	07	08	0339	S16	E57	07	12.5		B	CHO	270	3	7	3
4237	23746	MWIL	07	08	1500	S15	E50	07	12.4	5	(BP)					
4237		PALE	07	08	2226	S15	E48	07	12.6		B	CKO	280	2	4	2
4237		MANI	07	08	2310	S16	E48	07	12.6			CHO	330	5	6	3
4237		LEAR	07	09	0210	S17	E45	07	12.5		A	HHX	410	6	4	2
4237		LEAR	07	09	0210	S17	E45	07	12.5		B	CHO	410	6	4	2
4237		ATHN	07	09	0800	S16	E40	07	12.4		B	DKO	290	4	5	3
4237		RAMY	07	09	1243	S18	E39	07	12.5		B	CKO	260	11	5	3
4237		HOLL	07	09	1411	S17	E40	07	12.6		B	CKO	320	5	5	2
4237	23746	MWIL	07	09	1530	S16	E38	07	12.5	5	(BP)					
4237		BOUL	07	09	1535	S14	E36	07	12.4		B	CKO	270	5	5	3
4237		PALE	07	09	1920	S16	E37	07	12.6		B	CHO	300	5	5	2
4237		MANI	07	10	0040	S16	E34	07	12.6			CHO	280	7	6	2
4237		LEAR	07	10	0210	S17	E33	07	12.6		A	HKX	320	4	4	2
4237		ATHN	07	10	0655	S17	E28	07	12.4		B	CKO	250	4	5	2
4237		RAMY	07	10	1250	S17	E27	07	12.6		BG	CKO	250	11	5	3
4237		BOUL	07	10	1315	S16	E24	07	12.4		B	CKO	280	3	4	3
4237		HOLL	07	10	1525	S16	E26	07	12.6		B	CKO	310	5	5	3
4237	23746	MWIL	07	10	1600	S16	E25	07	12.6	5	(BP)					
4237		PALE	07	10	2025	S16	E23	07	12.6		B	CKO	290	5	4	3
4237		LEAR	07	11	0134	S18	E18	07	12.4		A	HSX	260	2	2	2
4237		ATHN	07	11	0610	S15	E17	07	12.5		A	HKX	210	2	3	1
4237		MANI	07	11	0634	S16	E16	07	12.5			HKX	430	2	4	3
4237		RAMY	07	11	1218	S17	E16	07	12.7		B	CKO	240	16	7	4
4237		BOUL	07	11	1420	S15	E14	07	12.7		B	CKO	310	7	5	3
4237		HOLL	07	11	1456	S17	E16	07	12.8		B	CHO	270	6	7	3
4237	23746	MWIL	07	11	1500	S16	E13	07	12.6	5	(BP)					
4237		PALE	07	11	1730	S16	E12	07	12.6		B	CHO	280	5	5	3
4237		MANI	07	11	2304	S16	E08	07	12.6			CKO	420	5	5	3
4237		LEAR	07	12	0043	S17	E05	07	12.4		A	HKX	260	2	3	3
4237		BOUL	07	12	1227	S16	E01	07	12.6		A	HHX	150	4	3	2
4237		HOLL	07	12	1445	S17	W01	07	12.5		B	CHO	200	4	3	3
4237	23746	MWIL	07	12	1530	S17	W01	07	12.6	5	(BP)					
4237		PALE	07	12	1846	S16	W02	07	12.6		B	CHO	190	5	4	3
4237		ATHN	07	13	0600	S15	W05	07	12.9		A	HHX	170	1	2	3
4237		BOUL	07	13	1245	S16	W12	07	12.6		B	CHO	220	6	4	2
4237	23746	MWIL	07	13	1515	S19	W14	07	12.6	5	(BP)					
4237		HOLL	07	13	1851	S16	W16	07	12.6		B	CHO	220	3	4	2
4237		LEAR	07	14	0117	S17	W21	07	12.5		B	DAO	210	7	5	2
4237		MANI	07	14	0350	S16	W22	07	12.5			CAO	240	7	5	2
4237		ATHN	07	14	0615	S13	W18	07	12.9		B	CHO	190	4	4	3
4237		BOUL	07	14	1235	S15	W25	07	12.6		B	CKO	250	4	5	3
4237		RAMY	07	14	1258	S15	W27	07	12.5		B	CKO	190	9	4	3
4237		HOLL	07	14	1442	S16	W27	07	12.6		B	CSI	170	9	5	3
4237	23746	MWIL	07	14	1500	S19	W27	07	12.6	5	(BP)					
4237		PALE	07	14	2220	S17	W32	07	12.5		B	CAO	190	5	4	3
4237		LEAR	07	15	0124	S17	W34	07	12.5		B	CKO	190	5	4	2
4237		ATHN	07	15	0610	S16	W35	07	12.6		B	CKO	200	4	5	3
4237		RAMY	07	15	1256	S17	W39	07	12.6		B	CKO	140	8	4	4
4237		HOLL	07	15	1451	S16	W40	07	12.6		B	CSO	160	5	3	3
4237		BOUL	07	15	1551	S15	W42	07	12.5		A	HSX	140	4	2	3
4237	23746	MWIL	07	15	1600	S17	W41	07	12.5	4	(AP)					
4237		LEAR	07	16	0135	S17	W46	07	12.6		B	CSO	160	6	4	2
4237		ATHN	07	16	0900	S14	W48	07	12.7		A	HSX	100	1	2	2
4237		RAMY	07	16	1230	S16	W51	07	12.6		B	CSO	140	5	5	4
4237		BOUL	07	16	1317	S18	W53	07	12.4		A	HSX	50	4	3	3
4237		HOLL	07	16	1453	S17	W53	07	12.6		A	HSX	140	3	2	4
4237	23746	MWIL	07	16	1600	S17	W54	07	12.6	4	(AP)					
4237		PALE	07	16	2244	S17	W57	07	12.6		B	CSO	90	2	3	4
4237		LEAR	07	17	0116	S16	W59	07	12.6		B	CSO	60	6	4	4
4237		RAMY	07	17	1130	S16	W65	07	12.5		B	CSO	110	3	4	4
4237		BOUL	07	17	1340	S19	W69	07	12.3		A	HSX	100	3	2	3
4237		HOLL	07	17	1501	S17	W65	07	12.7		B	CSO	90	2	4	4
4237	23746	MWIL	07	17	1545	S17	W67	07	12.6	3	(AP)					
4237		PALE	07	17	1735	S17	W68	07	12.6		B	CSO	70	2	4	4
4237		MANI	07	18	0020	S17	W73	07	12.5			CSO	160	3	4	2
4237		ATHN	07	18	0600	S18	W78	07	12.3			HKX	130	1	3	3
4237		RAMY	07	18	1145	S15	W78	07	12.6		A	HAX	90	1	3	3

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JULY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4237		BOUL	07	18	1345	S17	W79	07	12.6		A	HSX	60	1	1	3
4237	23746	MWIL	07	18	1515	S17	W77	07	12.8	2	(AP)					
4237		PALE	07	18	1910	S16	W83	07	12.5		A	HHX	70	1	3	3
4243		RAMY	07	11	1218	N14	E19	07	12.9		B	BXO	10	2	3	4
4243	23750	MWIL	07	11	1500	N14	E19	07	13.1	3	(AP)					
4243		LEAR	07	12	0043	N15	E17	07	13.3		A	AXX		1		3
4243		BOUL	07	12	1227	N13	E09	07	13.2		B	BXI	20	7	4	2
4243		HOLL	07	12	1445	N14	E08	07	13.2		B	BXO	20	11	4	3
4243	23750	MWIL	07	12	1530	N15	E07	07	13.2	4	(B)					
4243		PALE	07	12	1846	N15	E06	07	13.2		B	DRO	30	15	5	3
4243		ATHN	07	13	0600	N15	E04	07	13.6		B	CAO	40	7	5	3
4243		BOUL	07	13	1245	N13	W04	07	13.2		B	DAO	70	8	6	2
4243	23750	MWIL	07	13	1515	N14	W07	07	13.1	4	(B)					
4243		HOLL	07	13	1851	N15	W07	07	13.3		B	CAO	40	12	7	2
4243		LEAR	07	14	0117	N14	W13	07	13.1		B	CAO	90	10	6	2
4243		MANI	07	14	0350	N15	W13	07	13.2			CAO	90	12	6	2
4243		ATHN	07	14	0615	N15	W13	07	13.3		B	CKO	100	9	6	3
4243		BOUL	07	14	1235	N14	W17	07	13.2		B	CSO	120	6	7	3
4243		RAMY	07	14	1258	N15	W18	07	13.2		B	CAO	150	7	7	3
4243		HOLL	07	14	1442	N15	W19	07	13.2		BG	CSO	150	14	7	3
4243	23750	MWIL	07	14	1500	N14	W21	07	13.0	4	(B)					
4243		PALE	07	14	2220	N15	W21	07	13.3		B	CSO	110	8	9	3
4243		LEAR	07	15	0124	N14	W25	07	13.2		B	CSO	110	8	6	2
4243		ATHN	07	15	0610	N15	W30	07	13.0		BG	CSO	70	2	4	3
4243		RAMY	07	15	1256	N15	W33	07	13.0		BG	CAO	70	11	8	4
4243		HOLL	07	15	1451	N14	W34	07	13.0		B	CSO	110	5	7	3
4243		BOUL	07	15	1551	N16	W37	07	12.9		A	HSX	70	2	2	3
4243	23750	MWIL	07	15	1600	N14	W38	07	12.8	4	(BP)					
4243		LEAR	07	16	0135	N14	W43	07	12.8		B	CSO	50	3	3	2
4243		ATHN	07	16	0900	N16	W46	07	12.9		B	CSO	90	3	4	2
4243		RAMY	07	16	1230	N13	W48	07	12.9		B	CAO	70	7	5	4
4243		BOUL	07	16	1317	N12	W48	07	12.9		A	HSX	60	2	2	3
4243		HOLL	07	16	1453	N13	W52	07	12.7		A	HSX	70	1	2	4
4243	23750	MWIL	07	16	1600	N14	W52	07	12.7	4	(AP)					
4243		PALE	07	16	2244	N13	W56	07	12.7		A	HSX	30	1	2	4
4243		LEAR	07	17	0116	N14	W58	07	12.7		A	HSX	90	1	2	4
4243		RAMY	07	17	1130	N14	W64	07	12.6		A	HAX	50	1	2	4
4243		BOUL	07	17	1340	N12	W64	07	12.7		A	HSX	20	1	1	3
4243		HOLL	07	17	1501	N13	W65	07	12.7		A	HSX	20	1	2	4
4243	23750	MWIL	07	17	1545	N14	W66	07	12.7	3	(AP)					
4243		PALE	07	17	1735	N13	W67	07	12.7		A	HSX	30	1	1	4
4243		MANI	07	18	0020	N13	W71	07	12.7			HSX	110	2	1	2
4243		ATHN	07	18	0600	N13	W75	07	12.6			AXX	50	1	2	3
4243		RAMY	07	18	1145	N14	W79	07	12.5		A	HAX	30	1	2	3
4243		BOUL	07	18	1345	N12	W79	07	12.6		A	AXX	20	1	1	3
4243	23750	MWIL	07	18	1515	N14	W76	07	12.9	2	(AP)					
4243		PALE	07	18	1910	N13	W82	07	12.6		A	AXX	10	1	1	3
	23751	MWIL	07	11	1500	N16	E37	07	14.4	2	(AP)					
4241		RAMY	07	11	1218	S12	E42	07	14.7		B	CRO	30	7	2	4
4241		BOUL	07	11	1420	S11	E38	07	14.5		B	CSO	30	4	3	3
4241		HOLL	07	11	1456	S11	E41	07	14.7		B	BXO	30	5	3	3
4241	23752	MWIL	07	11	1500	S11	E41	07	14.7	4	(B)					
4241		PALE	07	11	1730	S11	E39	07	14.7		B	BXO	30	3	3	3
4241		MANI	07	11	2304	S11	E35	07	14.6			BXO	40	3	3	3
4241		LEAR	07	12	0043	S12	E35	07	14.7		A	AXX		1		3
4241		BOUL	07	12	1227	S11	E27	07	14.6		B	BXO	30	4	3	2
4241		HOLL	07	12	1445	S11	E28	07	14.7		B	BXO	10	4	3	3
4241	23752	MWIL	07	12	1530	S11	E27	07	14.7	3	(B)					
4241		PALE	07	12	1846	S11	E25	07	14.7		B	BXO	20	7	3	3
4241	23752	MWIL	07	13	1515	S11	E15	07	14.8	3	(AF)					
0007		HOLL	07	12	1445	S14	E36	07	15.3		A	AXX		1		3
0007	23754A	MWIL	07	12	1530	S14	E35	07	15.3	3	(AP)					
0007		PALE	07	12	1846	S14	E34	07	15.4		A	AXX	10	1	1	3
0008		HOLL	07	20	1456	N16	W60	07	16.1		A	AXX		1		3
0008		PALE	07	20	1740	N16	W62	07	16.0		A	AXX	10	1	1	3
4250		HOLL	07	17	1501	S07	W17	07	16.4		A	AXX	10	2	2	4

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JULY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Heml)	Spot Count	Long. Extent (Deg)	Qual
4250	23759	MWIL	07 17 1545	S08 W17	07 16.4	2	(B)					
4250		PALE	07 17 1735	S07 W18	07 16.4		B	BXO	10	2	3	4
4250		MANI	07 18 0020	S07 W22	07 16.4			BXO	40	3	4	2
4250		ATHN	07 18 0600	S07 W23	07 16.5			CSO	40	2	4	3
4250		RAMY	07 18 1145	S08 W29	07 16.3		B	DAO	20	3	3	3
4250	23759	MWIL	07 18 1515	S08 W31	07 16.3	2	(B)					
4250		PALE	07 18 1910	S07 W33	07 16.3		B	BXO	10	2	4	3
4250		LEAR	07 19 0152	S07 W37	07 16.3		B	BXO	10	2	4	3
4250		ATHN	07 19 0615	S08 W39	07 16.3		B	BXO	20	2	5	2
4250		RAMY	07 19 1215	S08 W44	07 16.2		B	BXO	20	2	5	3
4250		BOUL	07 19 1326	S09 W49	07 15.9		A	AXX	10	1	1	3
4250	23759	MWIL	07 19 1430	S08 W48	07 16.0	2	(B)					
4250		HOLL	07 19 1445	S06 W46	07 16.2		B	BXO	10	2	5	3
4250		PALE	07 19 1758	S08 W47	07 16.2		B	BXO	10	2	5	3
4246		BOUL	07 14 1235	N18 E27	07 16.6		B	BXO	20	6	5	3
4246		RAMY	07 14 1258	N17 E28	07 16.7		B	DAO	50	7	5	3
4246		HOLL	07 14 1442	N17 E27	07 16.7		B	CAO	20	8	5	3
4246	23754B	MWIL	07 14 1500	N18 E27	07 16.7	3	(B)					
4246		PALE	07 14 2220	N18 E22	07 16.6		B	CSO	50	6	6	3
4246		LEAR	07 15 0124	N17 E21	07 16.7		B	CSO	70	11	5	2
4246		ATHN	07 15 0610	N16 E17	07 16.5		B	DAO	140	4	8	3
4246		RAMY	07 15 1256	N18 E15	07 16.7		B	CAO	90	15	7	4
4246		HOLL	07 15 1451	N18 E14	07 16.7		B	DAO	100	13	7	3
4246		BOUL	07 15 1551	N18 E14	07 16.7		B	CSO	70	6	8	3
4246	23754B	MWIL	07 15 1600	N18 E13	07 16.7	4	(B)					
4246		LEAR	07 16 0135	N17 E08	07 16.7		B	DSO	100	9	8	2
4246		ATHN	07 16 0900	N19 E06	07 16.8		B	DSO	100	6	9	2
4246		RAMY	07 16 1230	N18 E02	07 16.7		B	DSO	90	7	8	4
4246		HOLL	07 16 1453	N18 W00	07 16.6		B	CSO	90	4	8	4
4246	23754B	MWIL	07 16 1600	N19 W00	07 16.7	4	(B)					
4246		PALE	07 16 2244	N18 W04	07 16.6		B	DSO	70	2	8	4
4246		LEAR	07 17 0116	N19 W06	07 16.6		B	CSO	80	6	10	4
4246		RAMY	07 17 1130	N18 W11	07 16.6		B	EAO	70	6	11	4
4246		BOUL	07 17 1340	N18 W12	07 16.7		B	CSO	30	3	10	3
4246		HOLL	07 17 1501	N18 W14	07 16.6		B	CSO	60	4	10	4
4246	23754B	MWIL	07 17 1545	N19 W14	07 16.6	3	(B)					
4246		PALE	07 17 1735	N19 W14	07 16.7		B	CSO	40	3	10	4
4246		MANI	07 18 0020	N19 W18	07 16.6			DSO	120	3	11	2
4246		ATHN	07 18 0600	N20 W23	07 16.5			HAX	50	1	2	3
4246		RAMY	07 18 1145	N20 W24	07 16.7		B	EAO	50	5	13	3
4246		BOUL	07 18 1345	N17 W25	07 16.7		B	CSO	50	2	10	3
4246	23754B	MWIL	07 18 1515	N18 W26	07 16.7	3	(BF)					
4246		PALE	07 18 1910	N19 W29	07 16.6		B	CSO	40	3	11	3
4246		LEAR	07 19 0152	N18 W33	07 16.6		B	CSO	30	2	11	3
4246		ATHN	07 19 0615	N19 W29	07 17.0		A	ARX	20	1	1	2
4246		RAMY	07 19 1215	N21 W32	07 17.1		A	HAX	20	1	1	3
4246		BOUL	07 19 1326	N20 W32	07 17.1		A	HSX	20	1	1	3
4246	23754B	MWIL	07 19 1430	N18 W40	07 16.6	3	(BF)					
4246		HOLL	07 19 1445	N22 W35	07 16.9		A	HAX	20	1	1	3
4246		PALE	07 19 1758	N20 W37	07 16.9		A	HAX	20	1	1	3
4246		LEAR	07 20 0226	N18 W46	07 16.6		B	BXO	30	5	11	3
4246		HOLL	07 20 1456	N20 W48	07 16.9		A	AXX	10	3	1	3
4246	23754B	MWIL	07 20 1500	N18 W52	07 16.7	2	(B)					
4246		LEAR	07 21 0135	N17 W66	07 16.0		A	AXX		1		2
4248	23755	MWIL	07 14 1500	N03 E30	07 16.9	2	(B)					
4248		PALE	07 14 2220	N05 E25	07 16.8		B	BXO	10	3	3	3
4248		LEAR	07 15 0124	N03 E22	07 16.7		A	AXX		1		2
4248		RAMY	07 15 1256	N03 E16	07 16.7		B	BXO	10	3	3	4
4248		LEAR	07 16 0135	N03 E08	07 16.7		B	BXO	20	4	3	2
4248		ATHN	07 16 0900	N05 E07	07 16.9		B	BXO	20	2	2	2
4248		RAMY	07 16 1230	N03 E03	07 16.7		B	BXO	30	7	3	4
4248		BOUL	07 16 1317	N03 E03	07 16.8		B	BXO	10	3	3	3
4248		HOLL	07 16 1453	N04 E03	07 16.8		B	BXO	20	5	3	4
4248	23758	MWIL	07 16 1600	N05 W00	07 16.7	2	(B)					
4248		RAMY	07 17 1130	N03 W07	07 17.0		B	BXO	20	4	5	4
4240	23748B	MWIL	07 10 1600	S13 E82	07 16.9	3	(AP)					
4240		PALE	07 10 2025	S12 E85	07 17.3		A	HSX	40	1	1	3
4240		LEAR	07 11 0134	S16 E77	07 16.9		A	HSX	70	1		2

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

JULY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4240		ATHN	07	11	0610	S14	E73	07	16.8		A	HAX	120	1	2	1
4240		MANI	07	11	0634	S15	E75	07	17.0			HAX	120	1	3	3
4240		RAMY	07	11	1218	S13	E72	07	16.9		A	HSX	110	1	2	4
4240		BOUL	07	11	1420	S13	E68	07	16.7		A	HSX	60	1	2	3
4240		HOLL	07	11	1456	S13	E72	07	17.1		A	HSX	110	1	2	3
4240	23748B	MWIL	07	11	1500	S13	E71	07	17.0	3	(AP)					
4240		PALE	07	11	1730	S13	E71	07	17.1		A	HSX	50	1	2	3
4240		MANI	07	11	2304	S13	E67	07	17.0			HSX	280	1	2	3
4240		LEAR	07	12	0043	S16	E64	07	16.9		A	HSX	100	1	2	3
4240		BOUL	07	12	1227	S14	E58	07	16.9		A	HSX	70	4	2	2
4240		HOLL	07	12	1445	S13	E59	07	17.1		A	HSX	120	2	2	3
4240	23748B	MWIL	07	12	1530	S13	E58	07	17.0	4	(AP)					
4240		PALE	07	12	1846	S14	E58	07	17.2		B	CAO	110	5	7	3
4240		ATHN	07	13	0600	S14	E53	07	17.3		A	HKX	50	1	3	3
4240		BOUL	07	13	1245	S14	E44	07	16.9		A	HAX	110	3	2	2
4240	23748B	MWIL	07	13	1515	S13	E45	07	17.0	5	(BP)					
4240		HOLL	07	13	1851	S14	E46	07	17.3		B	CAO	110	10	6	2
4240		LEAR	07	14	0117	S14	E41	07	17.2		B	CAO	130	10	7	2
4240		MANI	07	14	0350	S14	E39	07	17.1			CAO	140	15	7	2
4240		ATHN	07	14	0615	S12	E35	07	16.9		B	CAO	80	6	5	3
4240		BOUL	07	14	1235	S13	E33	07	17.0		B	CAO	80	5	4	3
4240		RAMY	07	14	1258	S15	E33	07	17.0		B	CAO	70	8	4	3
4240		RAMY	07	14	1258	S15	E33	07	17.0		B	DAO	70	8	4	3
4240		HOLL	07	14	1442	S15	E34	07	17.2		B	CAO	60	15	8	3
4240	23748B	MWIL	07	14	1500	S13	E32	07	17.0	4	(BP)					
4240		PALE	07	14	2220	S15	E30	07	17.2		B	CSO	60	9	8	3
4240		LEAR	07	15	0124	S15	E26	07	17.0		B	DSI	90	13	5	2
4240		ATHN	07	15	0610	S15	E21	07	16.8		B	DAO	100	7	6	3
4240		RAMY	07	15	1256	S15	E22	07	17.2		B	DAO	220	23	9	4
4240		HOLL	07	15	1451	S15	E20	07	17.1		B	DAO	90	20	10	3
4240		BOUL	07	15	1551	S13	E15	07	16.8		B	DSO	90	15	7	3
4240	23748B	MWIL	07	15	1600	S13	E18	07	17.0	3	(B)					
4240		LEAR	07	16	0135	S15	E13	07	17.1		B	DAO	200	23	9	2
4240		ATHN	07	16	0900	S12	E08	07	17.0		B	DSO	160	9	7	2
4240		RAMY	07	16	1230	S14	E08	07	17.1		B	DAO	140	20	9	4
4240		BOUL	07	16	1317	S14	E08	07	17.2		B	DAO	140	17	8	3
4240		HOLL	07	16	1453	S13	E05	07	17.0		B	CSO	100	17	10	4
4240	23748B	MWIL	07	16	1600	S13	E05	07	17.0	4	(BP)					
4240		PALE	07	16	2244	S13	E02	07	17.1		B	DSO	100	17	9	4
4240		LEAR	07	17	0116	S13	W01	07	17.0		B	DAI	180	17	8	4
4240		RAMY	07	17	1130	S13	W07	07	17.0		BG	DAO	120	20	9	4
4240		BOUL	07	17	1340	S14	W08	07	17.0		B	DSI	90	11	6	3
4240		HOLL	07	17	1501	S13	W08	07	17.0		B	CRI	70	17	7	4
4240	23748B	MWIL	07	17	1545	S13	W08	07	17.1	2	(BP)					
4240		PALE	07	17	1735	S13	W09	07	17.1		B	DSO	70	15	7	4
4240		MANI	07	18	0020	S13	W14	07	17.0			DSO	110	15	7	2
4240		ATHN	07	18	0600	S13	W13	07	17.3			DSO	100	12	6	3
4240		RAMY	07	18	1145	S12	W20	07	17.0		B	DAO	90	20	6	3
4240		BOUL	07	18	1345	S15	W20	07	17.1		B	BXI	60	10	7	3
4240		HOLL	07	18	1415	S11	W23	07	16.9		B	CRO	50	12	7	4
4240	23748B	MWIL	07	18	1515	S13	W22	07	17.0	2	(BF)					
4240		PALE	07	18	1910	S13	W24	07	17.0		B	CRO	40	10	6	3
4240		LEAR	07	19	0152	S13	W26	07	17.1		B	CRO	40	8	7	3
4240		ATHN	07	19	0615	S12	W26	07	17.3		B	BXO	20	2	3	2
4240		RAMY	07	19	1215	S12	W32	07	17.1		B	BXO	40	7	4	3
4240	23748B	MWIL	07	19	1430	S13	W34	07	17.0	2	(AP)					
4240		HOLL	07	19	1445	S11	W36	07	16.9		B	BXO	10	3	3	3
4240		PALE	07	19	1758	S13	W35	07	17.1		A	AXX	10	1	1	3
4240		LEAR	07	20	0226	S14	W38	07	17.2		A	AXX	10	1		3
0009		RAMY	07	16	1230	S07	E13	07	17.5		B	BXO	10	2	3	4
0009		RAMY	07	17	1130	S06	E01	07	17.6		B	BXO	30	8	6	4
4260		HOLL	07	20	1456	S06	W36	07	17.9		B	BXO	10	3	3	3
4260		LEAR	07	21	0135	S04	W41	07	18.0		B	CSO	30	4	4	2
4260		HOLL	07	21	1407	S06	W49	07	17.9		BG	BXO	10	3	5	3
4260		RAMY	07	21	1750	S05	W51	07	17.9		B	CRO	20	3	6	3
4260		PALE	07	21	1805	S06	W51	07	17.9		B	BXO	10	3	5	3
4260		LEAR	07	22	0057	S06	W53	07	18.1		B	CSO	60	5	5	2
4260		RAMY	07	22	1310	S06	W61	07	18.0		B	CAO	80	16	9	3
4260		BOUL	07	22	1515	S06	W60	07	18.1		B	DSI	130	17	6	3

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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4260		HOLL	07	22	1526	S05	W62	07	18.0		BG	CAO	90	14	10	4
4260		PALE	07	22	1800	S06	W64	07	18.0		B	CAO	120	9	10	3
4260		RAMY	07	23	1220	S05	W75	07	17.9		B	CAO	90	3	9	3
4260		HOLL	07	23	1557	S05	W72	07	18.3		B	CSO	60	5	6	4
4260		PALE	07	23	1746	S06	W76	07	18.0		B	DSO	60	5	7	4
4249		PALE	07	14	2220	S09	E45	07	18.3		A	AXX	10	1	1	3
4249		LEAR	07	15	0124	S09	E42	07	18.2		A	AXX	10	1		2
4249		RAMY	07	15	1256	S12	E35	07	18.2		B	BXO	10	2	3	4
4249		HOLL	07	15	1451	S09	E34	07	18.2		A	AXX		1		3
4249	23757	MWIL	07	15	1600	S08	E34	07	18.2	2	(AP)					
4249		LEAR	07	16	0135	S10	E30	07	18.3		B	BXO	10	2	3	2
4249		ATHN	07	16	0900	S07	E24	07	18.2		A	AXX	10	1	1	2
4249		RAMY	07	16	1230	S10	E22	07	18.2		A	AXX	10	1		4
4249		HOLL	07	16	1453	S08	E21	07	18.2		A	AXX		1		4
4249		PALE	07	16	2244	S10	E17	07	18.2		B	BXO	20	6	4	4
4249		LEAR	07	17	0116	S10	E15	07	18.2		B	BXO	30	12	5	4
4249		RAMY	07	17	1130	S12	E08	07	18.1		B	CRO	100	24	8	4
4249		BOUL	07	17	1340	S08	E08	07	18.2		B	BXI	40	7	7	3
4249		HOLL	07	17	1501	S09	E07	07	18.2		B	BXO	30	8	5	4
4249	23757	MWIL	07	17	1545	S09	E08	07	18.3	2	(B)					
4249		PALE	07	17	1735	S10	E06	07	18.2		B	BXO	30	7	5	4
4249		MANI	07	18	0020	S10	E02	07	18.2			BXO	30	6	5	2
4249		ATHN	07	18	0600	S13	E11	07	19.1			CSO	30	2	4	3
4249		RAMY	07	18	1145	S10	W05	07	18.1		B	BXO	20	6	6	3
4249		BOUL	07	18	1345	S10	W04	07	18.3		A	AXX	10	1	1	3
4249	23757	MWIL	07	18	1515	S09	W04	07	18.3	2	(BP)					
4249		PALE	07	18	1910	S09	W08	07	18.2		B	BXO	30	8	5	3
4249		LEAR	07	19	0152	S09	W12	07	18.2		B	DRO	40	7	5	3
4249		ATHN	07	19	0615	S10	W12	07	18.4		B	DRO	50	10	6	2
4249		RAMY	07	19	1215	S09	W17	07	18.2		B	DAO	40	22	6	3
4249		BOUL	07	19	1326	S09	W19	07	18.1		B	BXI	80	21	7	3
4249	23757	MWIL	07	19	1430	S09	W19	07	18.2	3	(B)					
4249		HOLL	07	19	1445	S09	W21	07	18.0		B	DAI	100	21	7	3
4249		PALE	07	19	1758	S09	W21	07	18.2		B	DAI	120	26	7	3
4249		LEAR	07	20	0226	S08	W25	07	18.2		B	DRO	120	17	7	3
4249		ATHN	07	20	0600	S09	W28	07	18.1		B	DRO	90	17	9	3
4249		BOUL	07	20	1315	S09	W32	07	18.1		B	BXI	110	27	9	3
4249		HOLL	07	20	1456	S09	W34	07	18.1		B	BXO	50	31	8	3
4249	23757	MWIL	07	20	1500	S08	W33	07	18.1	3	(B)					
4249		PALE	07	20	1740	S08	W35	07	18.1		B	CSI	90	21	9	3
4249		LEAR	07	21	0135	S09	W39	07	18.1		B	EAO	160	20	11	2
4249		ATHN	07	21	0650	S09	W40	07	18.3		B	DAO	140	8	9	3
4249		BOUL	07	21	1221	S06	W45	07	18.1		B	EKI	140	16	12	2
4249		HOLL	07	21	1407	S10	W46	07	18.1		B	CAI	130	21	10	3
4249	23757	MWIL	07	21	1530	S08	W46	07	18.2	4	(B)					
4249		RAMY	07	21	1750	S09	W48	07	18.1		B	CAO	130	30	9	3
4249		PALE	07	21	1805	S10	W49	07	18.1		B	CAI	130	24	9	3
4249		LEAR	07	22	0057	S09	W52	07	18.1		B	DAO	240	21	8	2
4249		ATHN	07	22	0730	S08	W54	07	18.3		B	DSO	140	7	8	2
4249		RAMY	07	22	1310	S09	W60	07	18.0		B	CKO	180	14	9	3
4249		BOUL	07	22	1515	S08	W62	07	18.0		B	DAI	230	17	10	3
4249		HOLL	07	22	1526	S09	W62	07	18.0		B	CSO	240	10	9	4
4249	23757	MWIL	07	22	1530	S08	W60	07	18.1	4	(B)					
4249		PALE	07	22	1800	S09	W63	07	18.0		B	CSO	210	8	10	3
4249		ATHN	07	23	0700	S08	W70	07	18.0		B	DAO	230	4	7	3
4249		RAMY	07	23	1220	S07	W73	07	18.0		B	EKO	150	5	11	3
4249		BOUL	07	23	1439	S06	W75	07	18.0		B	DAO	120	5	10	2
4249	23757	MWIL	07	23	1530	S08	W75	07	18.0	4	(B)					
4249		HOLL	07	23	1557	S08	W73	07	18.2		B	CSO	380	6	10	4
4249		PALE	07	23	1746	S08	W76	07	18.0		B	CSO	610	3	8	4
		RAMY	07	18	1145	S02	W02	07	18.3		A	AXX	10	1	1	3
4251		BOUL	07	17	1340	S04	E10	07	18.3		B	BXO	10	2	2	3
4251		HOLL	07	17	1501	S04	E11	07	18.4		B	BXO	10	2	2	4
4251	23760	MWIL	07	17	1545	S05	E12	07	18.6	2	(B)					
4251		PALE	07	17	1735	S04	E11	07	18.6		B	BXO	10	3	3	4
4251		MANI	07	18	0020	S04	E07	07	18.5			BXO	40	5	3	2
4251		MANI	07	18	0020	S04	E07	07	18.5			CSO	40	5	3	2
4251		RAMY	07	18	1145	S03	E04	07	18.8		B	CAO	40	10	9	3

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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4251		BOUL	07	18	1345	S05	E05	07	18.9		B	BXI	20	4	6	3
4251	23760	MWIL	07	18	1515	S05	E04	07	18.9	2	(BY)					
4251		PALE	07	18	1910	S05	E02	07	18.9		B	CRO	50	11	6	3
4251		LEAR	07	19	0152	S04	W02	07	18.9		B	BXI	50	13	7	3
4251		ATHN	07	19	0615	S04	W07	07	18.7		B	DRO	70	9	6	2
4251		RAMY	07	19	1215	S04	W09	07	18.8		B	BXO	20	5	3	3
4251		BOUL	07	19	1326	S04	W09	07	18.9		B	BXI	20	5	3	3
4251	23760	MWIL	07	19	1430	S04	W10	07	18.9	2	(BY)					
4251		HOLL	07	19	1445	S05	W12	07	18.7		B	BXO	10	4	3	3
4251		PALE	07	19	1758	S03	W11	07	18.9		B	BXO	20	6	4	3
4251		LEAR	07	20	0226	S03	W15	07	19.0		B	BXO	20	5	5	3
4251		HOLL	07	20	1456	S04	W24	07	18.8		B	BXO		2	3	3
4251	23760	MWIL	07	20	1500	S05	W25	07	18.8	2	(BP)					
4251		PALE	07	20	1740	S04	W25	07	18.9		B	BXO	10	3	3	3
4251		LEAR	07	21	0135	S03	W29	07	18.9		B	CSO	40	7	3	2
4251		ATHN	07	21	0650	S04	W30	07	19.0		B	BXO	20	4	4	3
4251		HOLL	07	21	1407	S05	W38	07	18.7		A	AXX	10	2		3
4251	23760	MWIL	07	21	1530	S05	W39	07	18.7	4	(AP)					
4251		RAMY	07	21	1750	S04	W41	07	18.7		A	AXX	10	4	1	3
4251		PALE	07	21	1805	S09	W42	07	18.6		A	AXX	10	1	1	3
4251		LEAR	07	22	0057	S04	W45	07	18.7		B	CSO	30	2	4	2
4251		ATHN	07	22	0730	S02	W45	07	18.9		B	BRO	10	3	3	2
4251		RAMY	07	22	1310	S04	W52	07	18.7		B	BXO	20	4	5	3
4251		BOUL	07	22	1515	S04	W52	07	18.7		B	BXO	10	5	3	3
4251		HOLL	07	22	1526	S04	W53	07	18.7		B	BXO	10	5	5	4
4251		PALE	07	22	1800	S04	W55	07	18.6		B	BXO	30	5	5	3
4251		RAMY	07	23	1220	S04	W67	07	18.5		A	AXX	20	1	1	3
4251		HOLL	07	23	1557	S04	W67	07	18.7		B	BXO	10	2	3	4
4251		PALE	07	23	1746	S04	W69	07	18.6		B	BXO	10	2	3	4
4251		LEAR	07	24	0200	S05	W78	07	18.2		A	HAX	60	1	2	2
4251		HOLL	07	24	1400	S03	W88	07	18.0		B	BXO	10	2	3	4
4245		ATHN	07	13	0600	N11	E82	07	19.4		A	HKX	130	1	3	3
4245		BOUL	07	13	1245	N14	E79	07	19.5		A	HSX	60	1	2	2
4245	23753	MWIL	07	13	1515	N14	E78	07	19.5	3	(AP)					
4245		HOLL	07	13	1851	N14	E74	07	19.4		A	HAX	80	2	2	2
4245		LEAR	07	14	0117	N13	E70	07	19.3		A	HSX	70	2	2	2
4245		MANI	07	14	0350	N14	E70	07	19.5			HSX	160	2	2	2
4245		ATHN	07	14	0615	N11	E69	07	19.5		A	HHX	140	1	3	3
4245		BOUL	07	14	1235	N12	E66	07	19.5		A	HKX	110	2	3	3
4245		RAMY	07	14	1258	N12	E65	07	19.4		A	HAX	100	3	2	3
4245		HOLL	07	14	1442	N14	E64	07	19.5		A	HAX	60	2	2	3
4245	23753	MWIL	07	14	1500	N14	E65	07	19.5	3	(AP)					
4245		PALE	07	14	2220	N13	E60	07	19.5		A	HSX	120	2	2	3
4245		LEAR	07	15	0124	N13	E58	07	19.4		A	HSX	60	2	2	2
4245		ATHN	07	15	0610	N10	E51	07	19.1		A	HSX	70	2	4	3
4245		RAMY	07	15	1256	N12	E52	07	19.5		B	CSO	70	3	2	4
4245		HOLL	07	15	1451	N13	E51	07	19.5		B	CSO	110	3	3	3
4245		BOUL	07	15	1551	N12	E50	07	19.4		A	HAX	60	2	2	3
4245	23753	MWIL	07	15	1600	N14	E49	07	19.4	4	(AP)					
4245		LEAR	07	16	0135	N13	E45	07	19.5		B	CSO	100	6	5	2
4245		ATHN	07	16	0900	N12	E41	07	19.5		B	CSO	70	3	3	2
4245		RAMY	07	16	1230	N12	E39	07	19.5		B	CAO	100	12	5	4
4245		BOUL	07	16	1317	N11	E37	07	19.3		B	CSO	70	3	4	3
4245		HOLL	07	16	1453	N13	E38	07	19.5		B	CSO	110	11	5	4
4245	23753	MWIL	07	16	1600	N15	E36	07	19.4	4	(BP)					
4245		PALE	07	16	2244	N13	E33	07	19.4		B	CSO	80	9	4	4
4245		LEAR	07	17	0116	N12	E31	07	19.4		B	CAO	130	10	5	4
4245		RAMY	07	17	1130	N12	E27	07	19.5		B	CAO	140	20	7	4
4245		BOUL	07	17	1340	N10	E22	07	19.2		B	DSI	120	9	4	3
4245		HOLL	07	17	1501	N13	E24	07	19.4		B	CSO	120	13	4	4
4245	23753	MWIL	07	17	1545	N14	E23	07	19.4	3	(BP)					
4245		PALE	07	17	1735	N13	E23	07	19.5		B	CAI	120	11	5	4
4245		MANI	07	18	0020	N13	E19	07	19.4			CAI	210	10	5	2
4245		ATHN	07	18	0600	N13	E18	07	19.6			CHO	110	7	4	3
4245		RAMY	07	18	1145	N13	E12	07	19.4		B	DSO	160	15	7	3
4245		BOUL	07	18	1345	N11	E11	07	19.4		B	CSO	120	7	3	3
4245	23753	MWIL	07	18	1515	N14	E10	07	19.4	4	(BP)					
4245		PALE	07	18	1910	N13	E08	07	19.4		B	CAO	110	7	3	3
4245		LEAR	07	19	0152	N13	E04	07	19.4		B	CSO	110	4	3	3
4245		ATHN	07	19	0615	N10	E03	07	19.5		B	CSO	130	8	4	2

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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Mo	Day	Time (UT)	Lat CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4245		RAMY	07	19	1215	N12 W02	07	19.4		B	CAO	100	5	5	3
4245		BOUL	07	19	1326	N12 W03	07	19.3		B	CSO	120	6	3	3
4245	23753	MWIL	07	19	1430	N14 W04	07	19.3	4	(AP)					
4245		HOLL	07	19	1445	N11 W02	07	19.5		B	CAO	80	4	4	3
4245		PALE	07	19	1758	N13 W05	07	19.4		A	CAX	140	4	3	3
4245		LEAR	07	20	0226	N14 W10	07	19.3		A	HSX	110	1	2	3
4245		ATHN	07	20	0600	N14 W11	07	19.4		B	CAO	120	3	3	3
4245		BOUL	07	20	1315	N12 W16	07	19.3		B	CHO	120	5	4	3
4245		HOLL	07	20	1456	N12 W16	07	19.4		B	CAO	130	5	4	3
4245	23753	MWIL	07	20	1500	N14 W16	07	19.4	5	(BP)					
4245		PALE	07	20	1740	N12 W17	07	19.5		B	CAO	80	4	4	3
4245		LEAR	07	21	0135	N14 W22	07	19.4		B	CAO	140	6	3	2
4245		ATHN	07	21	0650	N13 W22	07	19.6		B	CKO	110	3	3	3
4245		BOUL	07	21	1221	N12 W29	07	19.3		A	HSX	40	2	2	2
4245		HOLL	07	21	1407	N13 W31	07	19.2		A	HSX	120	4	2	3
4245	23753	MWIL	07	21	1530	N12 W31	07	19.3	5	(AP)					
4245		RAMY	07	21	1750	N14 W32	07	19.3		A	HAX	100	5	2	3
4245		PALE	07	21	1805	N13 W32	07	19.3		A	HAX	110	3	2	3
4245		LEAR	07	22	0057	N14 W36	07	19.3		A	HSX	100	5	2	2
4245		ATHN	07	22	0730	N14 W38	07	19.4		A	HSX	60	1	2	2
4245		RAMY	07	22	1310	N14 W43	07	19.3		A	HAX	80	4	2	3
4245		BOUL	07	22	1515	N15 W45	07	19.2		A	HSX	90	3	2	3
4245		HOLL	07	22	1526	N14 W44	07	19.3		A	HSX	70	1	2	4
4245	23753	MWIL	07	22	1530	N13 W44	07	19.3	4	(AP)					
4245		PALE	07	22	1800	N14 W46	07	19.3		A	HSX	70	1	2	3
4245		ATHN	07	23	0700	N15 W50	07	19.5		A	HSX	60	1	2	3
4245		RAMY	07	23	1220	N14 W57	07	19.2		A	HAX	80	1	1	3
4245		BOUL	07	23	1439	N13 W54	07	19.5		A	HSX	60	2	2	2
4245	23753	MWIL	07	23	1530	N12 W57	07	19.3	4	(AP)					
4245		HOLL	07	23	1557	N14 W57	07	19.4		A	HSX	70	1	2	4
4245		PALE	07	23	1746	N14 W59	07	19.3		A	HSX	70	2	2	4
4245		LEAR	07	24	0200	N14 W63	07	19.3		A	HSX	60	1	2	2
4245		ATHN	07	24	0600	N15 W65	07	19.3		A	HSX	80	1	2	4
4245		HOLL	07	24	1400	N15 W70	07	19.3		B	CSO	40	4	4	4
4245		BOUL	07	24	1445	N12 W69	07	19.4		A	HSX	40	1	2	3
4245	23753	MWIL	07	24	1515	N12 W70	07	19.4	3	(AP)					
4245		RAMY	07	24	1530	N14 W71	07	19.3		A	HAX	30	1	1	3
4245		PALE	07	24	2106	N14 W75	07	19.2		A	HSX	30	2	2	2
4245		LEAR	07	25	0103	N14 W77	07	19.2		A	HSX	40	1	1	2
4245		RAMY	07	25	1210	N14 W81	07	19.4		A	HAX	30	1	1	3
4261		HOLL	07	23	1557	S05 W48	07	20.1		A	AXX	10	1		4
4261		PALE	07	23	1746	S05 W50	07	20.0		A	AXX		1		4
4261		LEAR	07	24	0200	S07 W55	07	20.0		A	AXX	10	1	1	2
4247		RAMY	07	14	1258	N14 E80	07	20.6		B	BXO	40	4	3	3
4247		HOLL	07	14	1442	N16 E80	07	20.7		A	HAX	20	2	1	3
4247	23756	MWIL	07	14	1500	N17 E80	07	20.7	1	AP					
4247		PALE	07	14	2220	N16 E78	07	20.9		A	AXX	20	1	1	3
4247		LEAR	07	15	0124	N14 E73	07	20.6		A	AXX		2	1	2
4247		RAMY	07	15	1256	N15 E69	07	20.8		B	CSO	30	2	2	4
4247		HOLL	07	15	1451	N16 E67	07	20.7		B	CSO	30	3	3	3
4247		BOUL	07	15	1551	N12 E68	07	20.8		A	HSX	20	1	1	3
4247	23756	MWIL	07	15	1600	N16 E67	07	20.8	3	(AP)					
4247		LEAR	07	16	0135	N14 E62	07	20.8		A	HSX	30	1	1	2
4247		ATHN	07	16	0900	N15 E59	07	20.8		B	CSO	70	2	4	2
4247		RAMY	07	16	1230	N15 E57	07	20.8		B	CSO	40	2	2	4
4247		BOUL	07	16	1317	N14 E53	07	20.6		A	AXX	10	1	1	3
4247		HOLL	07	16	1453	N16 E56	07	20.9		B	BXO	10	3	3	4
4247	23756	MWIL	07	16	1600	N17 E54	07	20.8	3	(BP)					
4247		PALE	07	16	2244	N17 E53	07	21.0		B	CRO	30	3	6	4
4247		LEAR	07	17	0116	N16 E48	07	20.7		B	CSO	70	7	10	4
4247		RAMY	07	17	1130	N16 E45	07	20.9		BG	CSO	50	5	11	4
4247		BOUL	07	17	1340	N15 E40	07	20.6		A	HSX	30	2	2	3
4247		HOLL	07	17	1501	N17 E45	07	21.0		B	BXO	30	5	7	4
4247	23756	MWIL	07	17	1545	N18 E42	07	20.9	3	(BP)					
4247		PALE	07	17	1735	N17 E42	07	20.9		B	CRO	20	3	3	4
4247		MANI	07	18	0020	N17 E37	07	20.8			CRO	50	3	3	2
4247		ATHN	07	18	0600	N16 E35	07	20.9			HSX	30	1	1	3
4247		RAMY	07	18	1145	N17 E29	07	20.7		BG	CAO	30	5	7	3
4247		BOUL	07	18	1345	N14 E29	07	20.8		A	HSX	20	1	1	3

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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4247	23756	MWIL	07 18 1515	N17 E29	07 20.8	3	(AP)					
4247		PALE	07 18 1910	N17 E27	07 20.9		B	CRO	10	2	3	3
4247		LEAR	07 19 0152	N16 E23	07 20.8		A	AXX	10	1		3
4247		ATHN	07 19 0615	N14 E20	07 20.8		A	AXX	10	1	1	2
4247		RAMY	07 19 1215	N17 E17	07 20.8		A	HAX	20	1	1	3
4247		BOUL	07 19 1326	N16 E16	07 20.8		A	AXX	10	1	1	3
4247	23756	MWIL	07 19 1430	N17 E16	07 20.8	2	(AP)					
4247		HOLL	07 19 1445	N16 E16	07 20.8		B	CRO	10	3	3	3
4247		PALE	07 19 1758	N17 E16	07 21.0		B	BXO	20	4	5	3
4247		LEAR	07 20 0226	N17 E09	07 20.8		B	BXO	20	4	4	3
4247		BOUL	07 20 1315	N17 E02	07 20.7		A	AXX	10	1	1	3
4247		HOLL	07 20 1456	N16 E02	07 20.8		A	AXX		2		3
4247	23756	MWIL	07 20 1500	N18 E05	07 21.0	2	(AP)					
4247		PALE	07 20 1740	N17 E01	07 20.8		A	AXX		1		3
4247		LEAR	07 21 0135	N17 W04	07 20.8		A	AXX	10	1		2
		LEAR	07 20 0226	S05 E12	07 21.0		B	BXO	10	2	2	3
4255		LEAR	07 20 0226	N08 E25	07 22.0		B	BXO	20	4	2	3
4255		ATHN	07 20 0600	N08 E22	07 21.9		B	BXO	20	3	3	3
4255		BOUL	07 20 1315	N08 E18	07 21.9		B	BXI	90	18	4	3
4255		HOLL	07 20 1456	N08 E17	07 21.9		B	CRO	30	14	5	3
4255	23763	MWIL	07 20 1500	N09 E16	07 21.8	2	(B)					
4255		PALE	07 20 1740	N08 E16	07 21.9		B	CSO	50	16	5	3
4255		LEAR	07 21 0135	N08 E12	07 22.0		B	DSO	110	15	5	2
4255		ATHN	07 21 0650	N07 E10	07 22.0		B	CSO	70	15	8	3
4255		BOUL	07 21 1221	N09 E05	07 21.9		B	DAI	120	12	7	2
4255		HOLL	07 21 1407	N08 E04	07 21.9		B	DAI	200	19	7	3
4255	23763	MWIL	07 21 1530	N08 E03	07 21.9	4	(B)					
4255		RAMY	07 21 1750	N08 E02	07 21.9		B	DAI	180	27	8	3
4255		PALE	07 21 1805	N08 E02	07 21.9		B	DAO	210	24	8	3
4255		LEAR	07 22 0057	N08 W02	07 21.9		B	DAO	280	18	9	2
4255		ATHN	07 22 0730	N08 W04	07 22.0		B	DKO	170	9	8	2
4255		RAMY	07 22 1310	N09 W09	07 21.9		B	DAO	260	28	9	3
4255		BOUL	07 22 1515	N09 W11	07 21.8		B	DKO	340	35	10	3
4255		HOLL	07 22 1526	N08 W11	07 21.8		B	DSO	270	29	10	4
4255	23763	MWIL	07 22 1530	N08 W11	07 21.8	4	(B)					
4255		PALE	07 22 1800	N08 W12	07 21.8		B	ESI	330	27	11	3
4255		ATHN	07 23 0700	N09 W19	07 21.9		B	EAO	260	18	11	3
4255		RAMY	07 23 1220	N08 W24	07 21.7		B	EAO	130	18	11	3
4255		BOUL	07 23 1439	N08 W24	07 21.8		B	DKO	130	19	11	2
4255	23763	MWIL	07 23 1530	N08 W25	07 21.8	5	(B)					
4255		HOLL	07 23 1557	N08 W26	07 21.7		B	ESO	270	27	12	4
4255		PALE	07 23 1746	N08 W26	07 21.8		B	ESO	290	26	12	4
4255		LEAR	07 24 0200	N09 W30	07 21.8		B	ESO	130	14	12	2
4255		ATHN	07 24 0600	N09 W30	07 22.0		B	EHO	220	14	12	4
4255		HOLL	07 24 1400	N09 W39	07 21.7		BG	ESI	220	19	13	4
4255		BOUL	07 24 1445	N05 W34	07 22.1		B	EHI	200	11	12	3
4255	23763	MWIL	07 24 1515	N08 W38	07 21.8	5	(B)					
4255		RAMY	07 24 1530	N08 W39	07 21.7		BG	EKO	280	29	12	3
4255		PALE	07 24 2106	N08 W42	07 21.7		B	ESI	260	12	11	2
4255		LEAR	07 25 0103	N08 W46	07 21.6		B	ESI	300	16	12	2
4255		RAMY	07 25 1210	N08 W51	07 21.7		BG	ESO	370	36	12	3
4255		BOUL	07 25 1340	N08 W50	07 21.8		B	EHI	500	22	12	2
4255		HOLL	07 25 1820	N08 W55	07 21.6		BG	EKI	350	22	13	3
4255		PALE	07 25 1928	N07 W55	07 21.7		BG	EAO	360	18	14	3
4255		LEAR	07 26 0241	N07 W60	07 21.6		BG	EKI	480	12	14	2
4255		ATHN	07 26 0630	N07 W62	07 21.6			ESO	270	6	13	2
4255		BOUL	07 26 1219	N08 W64	07 21.7		B	EAI	190	11	13	3
4255		RAMY	07 26 1332	N08 W66	07 21.6		BG	EKO	340	22	13	3
4255	23763	MWIL	07 26 1600	N07 W66	07 21.7	5	(B)					
4255		PALE	07 26 1756	N07 W67	07 21.7		B	EAO	300	13	13	4
4255		HOLL	07 26 2052	N07 W68	07 21.8		B	EHO	250	13	13	3
4255		LEAR	07 27 0058	N07 W71	07 21.7		B	EAO	390	9	12	2
4255		ATHN	07 27 0630	N07 W74	07 21.7		B	EAO	110	3	11	3
4255		RAMY	07 27 1135	N07 W80	07 21.5		B	EKO	110	3	15	3
4255		BOUL	07 27 1320	N07 W73	07 22.1		B	DSO	60	2	5	3
4255	23763	MWIL	07 27 1530	N08 W79	07 21.7	4	B					
4255		HOLL	07 27 1622	N09 W78	07 21.8		A	HAX	40	3	2	2
4255		PALE	07 27 1825	N09 W78	07 21.9		A	HSX	30	1	1	3
4255		LEAR	07 28 0048	N09 W81	07 21.9		B	CRO	20	2	3	2

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4256		LEAR	07	20	0226	S06	E26	07	22.0		B	BXO	10	3	1	3
4256		BOUL	07	20	1315	S05	E16	07	21.7		B	AXX	10	2	1	3
4256		HOLL	07	20	1456	S05	E18	07	22.0		B	BXO	10	4	4	3
4256	23764	MWIL	07	20	1500	S06	E18	07	22.0	2	(AP)					
4256		PALE	07	20	1740	S06	E17	07	22.0		B	BXO	20	3	4	3
4256		LEAR	07	21	0135	S06	E12	07	22.0		B	CSO	30	5	4	2
4256		ATHN	07	21	0650	S07	E10	07	22.0		B	BRO	30	2	2	3
4256		BOUL	07	21	1221	S05	E04	07	21.8		B	CAO	30	5	2	2
4256		HOLL	07	21	1407	S05	E05	07	22.0		B	BXO	20	7	4	3
4256	23764	MWIL	07	21	1530	S06	E04	07	21.9	4	(B)					
4256		RAMY	07	21	1750	S06	E02	07	21.9		B	CRO	30	12	4	3
4256		PALE	07	21	1805	S06	E02	07	21.9		B	BXO	30	10	5	3
4256		LEAR	07	22	0057	S06	W02	07	21.9		B	DSO	60	12	4	2
4256		ATHN	07	22	0730	S06	W04	07	22.0		B	CAO	40	4	4	2
4256		RAMY	07	22	1310	S05	W08	07	21.9		B	CSO	50	14	8	3
4256		BOUL	07	22	1515	S05	W10	07	21.9		B	CSI	50	11	8	3
4256		HOLL	07	22	1526	S05	W09	07	22.0		B	CRO	50	8	7	4
4256	23764	MWIL	07	22	1530	S06	W10	07	21.9	4	(B)					
4256		PALE	07	22	1800	S05	W11	07	21.9		B	CSO	50	10	8	3
4256		RAMY	07	23	1220	S05	W26	07	21.6		B	DAO	40	10	5	3
4256		BOUL	07	23	1439	S05	W27	07	21.6		B	CSI	40	8	5	2
4256	23764	MWIL	07	23	1530	S06	W26	07	21.7	4	(BP)					
4256		HOLL	07	23	1557	S05	W27	07	21.6		B	CSO	70	7	6	4
4256		PALE	07	23	1746	S05	W28	07	21.6		B	DSO	70	10	6	4
4256		LEAR	07	24	0200	S05	W33	07	21.6		B	DAI	110	17	7	2
4256		ATHN	07	24	0600	S03	W32	07	21.9		B	DAO	190	12	8	4
4256		HOLL	07	24	1400	S05	W41	07	21.5		BG	DAI	230	17	8	4
4256		BOUL	07	24	1445	S07	W40	07	21.6		B	DSI	210	16	8	3
4256	23764	MWIL	07	24	1515	S06	W41	07	21.6	4	(B)					
4256		RAMY	07	24	1530	S06	W41	07	21.6		B	DAO	230	30	8	3
4256		PALE	07	24	2106	S06	W44	07	21.6		B	DAO	210	17	7	2
4256		LEAR	07	25	0103	S05	W46	07	21.6		B	DKO	390	13	8	2
4256		RAMY	07	25	1210	S06	W53	07	21.5		BG	DAO	360	32	10	3
4256		BOUL	07	25	1340	S05	W52	07	21.7		B	DKI	300	14	8	2
4256		HOLL	07	25	1820	S06	W57	07	21.5		B	DHO	420	12	10	3
4256		PALE	07	25	1928	S06	W57	07	21.5		B	EKO	480	16	11	3
4256		LEAR	07	26	0241	S06	W62	07	21.5		B	DKO	580	8	10	2
4256		ATHN	07	26	0630	S06	W66	07	21.3			DHO	320	6	10	2
4256		BOUL	07	26	1219	S06	W65	07	21.6		B	DKI	300	12	10	3
4256		RAMY	07	26	1332	S05	W68	07	21.5		BGD	EKO	430	17	11	3
4256	23764	MWIL	07	26	1600	S06	W69	07	21.5	4	(B)					
4256		PALE	07	26	1756	S06	W71	07	21.4		BGD	EKO	340	10	11	4
4256		HOLL	07	26	2052	S07	W71	07	21.5		B	DHO	390	5	10	3
4256		LEAR	07	27	0058	S06	W74	07	21.5		BG	EKO	390	7	12	2
4256		ATHN	07	27	0630	S06	W77	07	21.5		BGD	EAO	210	3	11	3
4256		RAMY	07	27	1135	S04	W85	07	21.1		A	HKX	80	1	7	3
4256	23764	MWIL	07	27	1530	S04	W88	07	21.1	2	AP					
4256		HOLL	07	27	1622	S05	W88	07	21.1		A	HSX	100	1	2	2
4256		PALE	07	27	1825	S06	W82	07	21.6		A	HAX	30	1	1	3
4259		LEAR	07	19	0152	N21	E42	07	22.3		A	AXX	10	1		3
4259		HOLL	07	21	1407	N20	E08	07	22.2		B	BXO		2	3	3
4259		RAMY	07	21	1750	N20	E08	07	22.4		B	BXO	20	4	4	3
4259		PALE	07	21	1805	N20	E07	07	22.3		B	BXO	10	4	4	3
4259		LEAR	07	22	0057	N20	E04	07	22.3		B	BXO	20	4	3	2
4259		RAMY	07	22	1310	N20	W04	07	22.2		B	BXO	10	5	3	3
4259		BOUL	07	22	1515	N20	W06	07	22.2		B	BXO	10	4	3	3
4259		HOLL	07	22	1526	N21	W05	07	22.3		B	BXO	10	3	3	4
4259		PALE	07	22	1800	N22	W06	07	22.3		B	BXO	10	3	3	3
4253		RAMY	07	18	1145	N10	E58	07	22.9		A	AXX	10	1		3
4253	23761	MWIL	07	18	1515	N12	E55	07	22.8	2	(AP)					
4253		PALE	07	18	1910	N11	E53	07	22.8		A	AXX		1		3
4253		LEAR	07	19	0152	N11	E48	07	22.7		B	BXO	10	2		3
4253		ATHN	07	19	0615	N09	E44	07	22.6		A	AXX	10	1	1	2
4253		RAMY	07	19	1215	N10	E43	07	22.7		B	CAO	30	2	4	3
4253		BOUL	07	19	1326	N10	E42	07	22.7		B	BXO	10	4	3	3
4253	23761	MWIL	07	19	1430	N11	E41	07	22.7	2	(BP)					
4253		HOLL	07	19	1445	N07	E43	07	22.8		B	CRO	20	4	4	3
4253		PALE	07	19	1758	N10	E40	07	22.8		B	CRO	20	3	4	3
4253		LEAR	07	20	0226	N11	E35	07	22.7		B	CRO	40	5	4	3

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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4253		ATHN	07	20	0600	N10	E33	07	22.7		B	CRO	40	2	5	3
4253		BOUL	07	20	1315	N10	E28	07	22.7		B	BXI	40	6	6	3
4253		HOLL	07	20	1456	N11	E28	07	22.7		B	CRO	30	8	6	3
4253	23761	MWIL	07	20	1500	N11	E29	07	22.8	4	(B)					
4253		PALE	07	20	1740	N10	E27	07	22.8		B	CRO	40	5	6	3
4253		LEAR	07	21	0135	N11	E22	07	22.7		B	CSO	60	5	6	2
4253		ATHN	07	21	0650	N09	E19	07	22.7		B	CSO	20	5	5	3
4253		BOUL	07	21	1221	N11	E07	07	22.0		B	BXI	40	9	9	2
4253		HOLL	07	21	1407	N10	E15	07	22.7		B	CAO	40	7	7	3
4253	23761	MWIL	07	21	1530	N11	E13	07	22.6	4	(BP)					
4253		RAMY	07	21	1750	N10	E13	07	22.7		B	DAO	50	6	6	3
4253		PALE	07	21	1805	N11	E12	07	22.7		B	CSO	50	9	6	3
4253		LEAR	07	22	0057	N11	E08	07	22.6		B	DAO	60	7	6	2
4253		ATHN	07	22	0730	N10	E05	07	22.7		B	CSO	40	5	6	2
4253		RAMY	07	22	1310	N11	E01	07	22.6		B	CAO	50	13	7	3
4253		BOUL	07	22	1515	N11	W01	07	22.6		B	DAI	80	16	7	3
4253		HOLL	07	22	1526	N11	W00	07	22.6		B	CRO	90	17	6	4
4253	23761	MWIL	07	22	1530	N10	E01	07	22.7	4	(B)					
4253		PALE	07	22	1800	N11	W02	07	22.6		B	DSO	70	10	6	3
4253		ATHN	07	23	0700	N10	W07	07	22.8		B	DAO	130	9	8	3
4253		RAMY	07	23	1220	N11	W12	07	22.6		B	DAO	60	15	7	3
4253		BOUL	07	23	1439	N09	W14	07	22.6		B	DAO	50	11	6	2
4253	23761	MWIL	07	23	1530	N10	W13	07	22.7	4	(B)					
4253		HOLL	07	23	1557	N11	W13	07	22.7		B	DSO	70	11	7	4
4253		PALE	07	23	1746	N11	W14	07	22.7		B	DSO	80	12	6	4
4253		LEAR	07	24	0200	N11	W17	07	22.8		B	DSI	120	13	6	2
4253		ATHN	07	24	0600	N10	W17	07	23.0		A	DSO	130	12	7	4
4253		HOLL	07	24	1400	N11	W25	07	22.7		B	DAI	80	14	7	4
4253		BOUL	07	24	1445	N08	W25	07	22.7		B	DAI	110	13	7	3
4253	23761	MWIL	07	24	1515	N10	W26	07	22.7	3	(BP)					
4253		RAMY	07	24	1530	N11	W28	07	22.5		B	DAO	120	22	6	3
4253		PALE	07	24	2106	N10	W29	07	22.7		B	CAO	50	17	6	2
4253		LEAR	07	25	0103	N11	W32	07	22.6		B	DAI	70	14	8	2
4253		RAMY	07	25	1210	N09	W38	07	22.7		B	DAO	50	14	7	3
4253		BOUL	07	25	1340	N11	W38	07	22.7		B	DSI	60	8	7	2
4253		HOLL	07	25	1820	N10	W42	07	22.6		B	BXO	20	9	7	3
4253		PALE	07	25	1928	N10	W42	07	22.7		B	BXO	20	9	7	3
4253		LEAR	07	26	0241	N11	W46	07	22.6		B	BXO	20	9	7	2
4253		ATHN	07	26	0630	N10	W47	07	22.7		B	BXO	40	3	3	2
4253		BOUL	07	26	1219	N09	W49	07	22.8		B	BXO	20	4	4	3
4253		RAMY	07	26	1332	N10	W51	07	22.7		B	DRO	50	14	5	3
4253	23761	MWIL	07	26	1600	N09	W52	07	22.8	3	(B)					
4253		PALE	07	26	1756	N10	W54	07	22.7		B	CSO	40	8	5	4
4253		HOLL	07	26	2052	N10	W56	07	22.7		B	BXO	20	8	4	3
4253		LEAR	07	27	0058	N10	W58	07	22.7		B	DRO	60	5	5	2
4253		ATHN	07	27	0630	N10	W60	07	22.8		A	DRO	40	2	4	3
4253		RAMY	07	27	1135	N11	W65	07	22.6		B	DAO	90	2	5	3
4253		BOUL	07	27	1320	N10	W63	07	22.8		B	BXO	30	3	4	3
4253	23761	MWIL	07	27	1530	N11	W66	07	22.7	4	(B)					
4253		HOLL	07	27	1622	N08	W67	07	22.7		B	CAO	20	3	5	2
4253		PALE	07	27	1825	N09	W68	07	22.7		B	CSO	30	3	5	3
4253		LEAR	07	28	0048	N10	W71	07	22.7		B	DRO	50	4	7	2
4253	23761	MWIL	07	28	1445	N10	W75	07	23.0	3	(AP)					
4252		RAMY	07	18	1145	S09	E57	07	22.8		A	AXX	10	1		3
4252		BOUL	07	18	1345	S12	E58	07	22.9		A	AXX	10	1	1	3
4252	23762	MWIL	07	18	1515	S08	E55	07	22.8	2	(AP)					
4252		PALE	07	18	1910	S09	E53	07	22.8		A	AXX		1		3
4252		LEAR	07	19	0152	S09	E48	07	22.7		A	AXX	10	1		3
4252		ATHN	07	19	0615	S10	E43	07	22.5		A	AXX	10	1	1	2
4252		RAMY	07	19	1215	S10	E42	07	22.7		A	AXX	10	1	1	3
4252		BOUL	07	19	1326	S09	E39	07	22.5		A	AXX	10	1	1	3
4252	23762	MWIL	07	19	1430	S09	E39	07	22.5	2	(AP)					
4252		HOLL	07	19	1445	S12	E39	07	22.6		A	AXX	10	2	1	3
4252		PALE	07	19	1758	S09	E39	07	22.7		A	AXX	10	3	1	3
4252		HOLL	07	21	1407	S09	E17	07	22.9		A	AXX		1		3
4252		LEAR	07	24	0200	S09	W21	07	22.5		B	DSO	40	2	3	2
4252		ATHN	07	24	0600	S08	W21	07	22.7		A	BRO	30	2	3	4
4252		HOLL	07	24	1400	S08	W31	07	22.3		BG	DAO	20	4	6	4
4252	23767	MWIL	07	24	1515	S09	W28	07	22.5	3	(B)					
4252		RAMY	07	24	1530	S08	W29	07	22.5		B	DAO	30	5	3	3

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4252		PALE	07	24	2106	S09	W32	07	22.5		B	CRO	20	3	3	2
4252		LEAR	07	25	0103	S09	W35	07	22.4		B	CSO	20	2	3	2
4252		RAMY	07	25	1210	S09	W40	07	22.5		A	AXX	10	1	1	3
4252		BOUL	07	25	1340	S07	W39	07	22.6		A	AXX	10	1	1	2
4252		HOLL	07	25	1820	S10	W45	07	22.4		A	AXX	10	1		3
4252		PALE	07	25	1928	S10	W44	07	22.5		A	AXX	10	1	1	3
	23771	MWIL	07	28	1445	S14	W74	07	23.0	3	(B)					
		LEAR	07	27	0058	N21	W52	07	23.1		A	AXX	10	1	1	2
0010		HOLL	07	20	1456	S17	E35	07	23.3		A	AXX	10	1		3
0010	23765	MWIL	07	20	1500	S17	E35	07	23.3	2	(AP)					
		BOUL	07	22	1515	N13	E18	07	24.0		A	AXX		1		3
4254		RAMY	07	25	1210	S13	W17	07	24.2		A	AXX	10	3	2	3
	23778	MWIL	07	29	1500	N17	W54	07	25.5	3	(B)					
	23769	MWIL	07	27	1530	S07	W08	07	27.0	3	(AP)					
4258		BOUL	07	21	1221	S06	E72	07	26.9		A	AXX	30	1	1	2
4258		HOLL	07	21	1407	S06	E69	07	26.8		A	AXX		1		3
4258	23766	MWIL	07	21	1530	S05	E69	07	26.8	3	(AP)					
4258		RAMY	07	21	1750	S07	E68	07	26.8		A	HRX	20	1	1	3
4258		PALE	07	21	1805	S07	E68	07	26.9		A	AXX	10	1		3
4258		LEAR	07	22	0057	S07	E63	07	26.8		A	AXX		1	1	2
4258		RAMY	07	22	1310	S07	E56	07	26.7		A	AXX	20	1	1	3
4258		BOUL	07	22	1515	S07	E54	07	26.7		A	AXX	20	1	1	3
4258		HOLL	07	22	1526	S06	E55	07	26.8		A	AXX		1	1	4
4258	23766	MWIL	07	22	1530	S07	E55	07	26.8	3	(AP)					
4258		PALE	07	22	1800	S06	E55	07	26.9		A	AXX		1	1	3
4258		RAMY	07	23	1220	S07	E42	07	26.7		A	AXX	10	1	1	3
4258		BOUL	07	23	1439	S07	E41	07	26.7		A	AXX	10	1	1	2
4258	23766	MWIL	07	23	1530	S07	E45	07	27.0	2	(B)					
4258		HOLL	07	23	1557	S07	E43	07	26.9		B	BXO	20	4	7	4
4258		PALE	07	23	1746	S07	E43	07	27.0		B	BXO	20	3	6	4
4258		HOLL	07	24	1400	S08	E27	07	26.6		A	AXX		1		4
4258	23766	MWIL	07	24	1515	S07	E27	07	26.7	2	(AP)					
4258		RAMY	07	24	1530	S08	E27	07	26.7		A	HRX	10	1	1	3
4258		PALE	07	24	2106	S06	E25	07	26.8		A	AXX	10	2	1	2
4258		LEAR	07	25	0103	S07	E21	07	26.6		A	AXX		1		2
4258		RAMY	07	25	1210	S08	E15	07	26.6		A	AXX	10	1	1	3
4258		LEAR	07	26	0241	S07	E13	07	27.1		A	AXX		1		2
4258		PALE	07	27	1825	S08	W10	07	27.0		A	AXX	10	2	1	3
4264		RAMY	07	28	1345	S14	W16	07	27.4		A	AXX		1		3
4264	23772	MWIL	07	28	1445	S14	W16	07	27.4	2	(AF)					
4264		HOLL	07	28	1512	S13	W17	07	27.3		A	AXX		1		4
4264		PALE	07	28	1800	S13	W18	07	27.4		A	AXX	10	2	1	3
4264		LEAR	07	29	0123	S13	W25	07	27.2		B	DSO	50	5	3	3
4264		BOUL	07	29	1239	S13	W30	07	27.3		B	BXO	10	4	4	3
4264		RAMY	07	29	1440	S14	W31	07	27.3		B	CRO	30	7	5	2
4264	23772	MWIL	07	29	1500	S15	W32	07	27.2	4	(B)					
4264		HOLL	07	29	1506	S13	W32	07	27.2		B	BXO	30	6	5	4
4264		LEAR	07	30	0215	S13	W38	07	27.2		B	DSO	60	15	4	3
4264		RAMY	07	30	1140	S12	W44	07	27.2		BG	DAO	60	8	5	3
4264		BOUL	07	30	1308	S12	W44	07	27.2		B	BXO	50	9	5	3
4264	23772	MWIL	07	30	1500	S14	W45	07	27.2	4	(B)					
4264		PALE	07	30	2016	S14	W47	07	27.3		B	CRO	30	4	6	3
4264		LEAR	07	31	0035	S14	W50	07	27.2		B	CRO	30	3	4	3
4264		ATHN	07	31	0820	S12	W48	07	27.7		B	BXO	20	2	4	2
4264		RAMY	07	31	1240	S13	W58	07	27.1		B	DAO	40	2	4	3
4264		HOLL	07	31	1420	S15	W58	07	27.2		B	BXO		2	4	4
4264	23772	MWIL	07	31	1600	S14	W58	07	27.3	3	(B)					
4264		PALE	07	31	1802	S15	W62	07	27.1		B	BXO	10	2	3	4
4269	23779	MWIL	07	29	1500	N13	W17	07	28.3	3	(B)					
4269		HOLL	07	29	1506	N13	W17	07	28.3		A	AXX	10	2	2	4
4269		LEAR	07	30	0215	N15	W22	07	28.4		B	CAO	40	5	5	3

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4269		RAMY	07	30	1140	N15	W29	07	28.3		B	DAO	60	8	7	3
4269		BOUL	07	30	1308	N13	W28	07	28.4		B	BXO	30	10	4	3
4269		HOLL	07	30	1415	N15	W30	07	28.3		B	DAO	90	11	5	4
4269	23779	MWIL	07	30	1500	N13	W29	07	28.4	5	(BY)					
4269		PALE	07	30	2016	N14	W33	07	28.3		B	DRO	50	11	6	3
4269		LEAR	07	31	0035	N13	W35	07	28.4		B	DAO	70	11	7	3
4269		ATHN	07	31	0820	N15	W34	07	28.8		B	CSO	50	4	6	2
4269		RAMY	07	31	1240	N14	W42	07	28.4		B	DAO	100	16	7	3
4269		HOLL	07	31	1420	N12	W43	07	28.4		B	BXO	60	14	8	4
4269		BOUL	07	31	1430	N12	W42	07	28.4		B	BXO	70	9	5	2
4269	23779	MWIL	07	31	1600	N13	W44	07	28.3	4	(B)					
4269		PALE	07	31	1802	N12	W47	07	28.2		B	DAO	110	19	6	4
4269		ATHN	08	01	0700	N14	W51	07	28.4		B	DAO	90	6	5	2
4269		RAMY	08	01	1305	N14	W58	07	28.2		B	DAO	80	16	7	2
4269		BOUL	08	01	1355	N12	W55	07	28.4		B	CSO	120	7	8	3
4269	23779	MWIL	08	01	1515	N13	W57	07	28.3	5	(B)					
4269		PALE	08	01	1809	N13	W60	07	28.2		B	DAO	150	10	9	3
4269		ATHN	08	02	0650	N13	W68	07	28.2		B	DAO	140	3	10	3
4269		BOUL	08	02	1238	N13	W64	07	28.7		B	BXO	40	2	8	2
4269	23779	MWIL	08	02	1500	N13	W71	07	28.3	4	(B)					
4269		HOLL	08	02	1712	N13	W72	07	28.3		B	DSO	120	5	10	3
4269		PALE	08	02	1810	N12	W75	07	28.1		B	CSO	120	3	10	4
4269		LEAR	08	03	0755	N14	W77	07	28.6		A	AXX	10	1	1	3
	23780	MWIL	07	29	1500	S19	W15	07	28.5	3	(AP)					
0011	23773	MWIL	07	28	1445	S08	E01	07	28.7	3	(AP)					
0011		HOLL	07	28	1512	S07	W00	07	28.6		A	AXX		1		4
0011		PALE	07	28	1800	S07	E01	07	28.8		A	AXX		1		3
	23774	MWIL	07	28	1445	S15	E02	07	28.8	3	(AP)					
		BOUL	08	01	1355	S09	W29	07	30.4		A	AXX	10	1	1	3
4262		HOLL	07	24	1400	S23	E78	07	30.6		A	HSX	20	1	1	4
4262		BOUL	07	24	1445	S21	E80	07	30.8		A	HSX	50	1	1	3
4262	23768	MWIL	07	24	1515	S19	E77	07	30.5	3	(AP)					
4262		RAMY	07	24	1530	S21	E75	07	30.4		A	HAX	60	1	1	3
4262		PALE	07	24	2106	S20	E75	07	30.6		A	HSX	60	1	1	2
4262		LEAR	07	25	0103	S21	E70	07	30.4		A	HSX	30	1	1	2
4262		RAMY	07	25	1210	S22	E65	07	30.5		A	HAX	30	2	2	3
4262		BOUL	07	25	1340	S19	E62	07	30.3		A	HSX	40	1	2	2
4262		HOLL	07	25	1820	S20	E61	07	30.4		A	HSX	40	1	1	3
4262		PALE	07	25	1928	S21	E62	07	30.6		A	HSX	30	1	1	3
4262		LEAR	07	26	0241	S21	E57	07	30.3		A	HSX	100	1	1	2
4262		ATHN	07	26	0630	S21	E52	07	30.3		A	HSX	50	1	1	2
4262		BOUL	07	26	1219	S21	E51	07	30.4		A	HSX	30	2	2	3
4262		RAMY	07	26	1332	S21	E51	07	30.5		A	HAX	50	1	1	3
4262	23768	MWIL	07	26	1600	S20	E49	07	30.4	4	(AP)					
4262		PALE	07	26	1756	S20	E50	07	30.6		A	HSX	40	1	1	4
4262		HOLL	07	26	2052	S20	E47	07	30.5		A	HSX	30	1	2	3
4262		LEAR	07	27	0058	S22	E46	07	30.6		A	HSX	40	2	2	2
4262		ATHN	07	27	0630	S21	E42	07	30.5		A	HSX	50	1	1	3
4262		RAMY	07	27	1135	S22	E39	07	30.5		A	HAX	60	1	1	3
4262		BOUL	07	27	1320	S21	E38	07	30.5		A	HRX	50	1	2	3
4262	23768	MWIL	07	27	1530	S21	E37	07	30.5	4	(AP)					
4262		HOLL	07	27	1622	S21	E37	07	30.5		A	HSX	40	2	1	2
4262		PALE	07	27	1825	S21	E36	07	30.5		A	HSX	40	1	1	3
4262		LEAR	07	28	0048	S22	E32	07	30.5		A	HSX	50	2	2	2
4262		ATHN	07	28	0700	S22	E28	07	30.4		A	HSX	30	1	2	3
4262		RAMY	07	28	1345	S20	E25	07	30.5		A	HAX	30	2	1	3
4262	23768	MWIL	07	28	1445	S20	E25	07	30.5	4	(AP)					
4262		BOUL	07	28	1511	S22	E24	07	30.5		A	HSX	30	2	2	3
4262		HOLL	07	28	1512	S20	E25	07	30.5		A	HSX	40	2	1	4
4262		PALE	07	28	1800	S20	E23	07	30.5		A	HSX	30	2	1	3
4262		LEAR	07	29	0123	S21	E18	07	30.4		A	HAX	50	2	1	3
4262		BOUL	07	29	1239	S20	E10	07	30.3		B	BXO	10	3	2	3
4262		RAMY	07	29	1440	S20	E11	07	30.5		A	HAX	20	2	1	2
4262	23768	MWIL	07	29	1500	S20	E13	07	30.6	4	(AP)					
4262		HOLL	07	29	1506	S20	E12	07	30.5		A	AXX	20	4	2	4
4262		LEAR	07	30	0215	S21	E05	07	30.5		A	HSX	30	1	1	3

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

JULY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4262		HOLL	07	30	1415	S13	W45	07	27.2		B	DAO	80	7	5	4
4262	23768	MWIL	07	31	1600	S24	W16	07	30.4	3	(AP)					
4262		PALE	07	31	1802	S22	W19	07	30.3		B	CRO	20	3	3	4
4262		ATHN	08	01	0700	S22	W23	07	30.5		A	AXX	10	1	1	2
4262		RAMY	08	01	1305	S22	W31	07	30.2		A	AXX	10	2	1	2
4262		BOUL	08	01	1355	S21	W30	07	30.3		A	AXX	10	1	1	3
4262	23768	MWIL	08	01	1515	S22	W28	07	30.5	5	(BP)					
4262		PALE	08	01	1809	S22	W30	07	30.5		B	BXO	10	4	4	3
4262		ATHN	08	02	0650	S22	W38	07	30.4		B	BXO	20	2	3	3
4262		BOUL	08	02	1238	S20	W43	07	30.2		B	BXO	10	3	3	2
4262	23768	MWIL	08	02	1500	S22	W43	07	30.3	3	(BP)					
4262		HOLL	08	02	1712	S23	W44	07	30.3		B	BXO	10	7	6	3
4262		PALE	08	02	1810	S22	W46	07	30.2		B	BXO	10	3	4	4
4262		ATHN	08	03	0615	S21	W49	07	30.5		B	BXO	20	2	2	4
4262		LEAR	08	03	0755	S22	W52	07	30.3		B	CSO	40	6	4	3
4262		BOUL	08	03	1330	S21	W53	07	30.5		B	BXO	50	7	6	4
4262	23768	MWIL	08	03	1530	S23	W56	07	30.3	3	(B)					
4262		RAMY	08	03	1540	S22	W57	07	30.3		B	DAO	70	15	6	4
4262		HOLL	08	03	2120	S22	W59	07	30.4		B	DRO	30	5	5	3
4262		LEAR	08	04	0046	S22	W60	07	30.4		B	CSO	30	6	9	3
4262		ATHN	08	04	0700	S22	W60	07	30.7		B	CRO	40	3	3	4
4262		RAMY	08	04	1200	S21	W68	07	30.3		B	DAO	190	14	7	4
4262		BOUL	08	04	1312	S22	W69	07	30.2		B	BXO	50	4	5	3
4262	23768	MWIL	08	04	1445	S22	W68	07	30.4	4	(AP)					
4262		HOLL	08	04	1454	S23	W67	07	30.5		B	CSO	80	8	5	4
4262		PALE	08	04	1818	S22	W71	07	30.3		B	DSO	90	5	6	3
4262		LEAR	08	05	0129	S23	W74	07	30.4		B	BXO	10	4	6	3
4262		RAMY	08	05	1235	S21	W82	07	30.2		A	HSX	30	1	2	3
4262	23768	MWIL	08	05	1500	S28	W78	07	30.5	3	(AP)					
4262		HOLL	08	05	1510	S21	W80	07	30.5		A	HAX	30	1	1	3
4266	23776	MWIL	07	28	1445	S12	E33	07	31.1	3	(AF)					
4266	23775	MWIL	07	28	1445	S15	E30	07	30.9	3	(AF)					
4266		BOUL	07	28	1511	S16	E28	07	30.8		A	AXX	10	2	2	3
4266		HOLL	07	28	1512	S15	E29	07	30.8		A	AXX		1		4
4266		BOUL	07	29	1239	S12	E18	07	30.9		B	BXO	10	2	2	3
4266		RAMY	07	29	1440	S11	E19	07	31.0		B	BXO	20	3	3	2
4266	23776	MWIL	07	29	1500	S11	E19	07	31.1	4	(B)					
4266		HOLL	07	29	1506	S11	E18	07	31.0		B	BXO	10	2	3	4
4266		LEAR	07	30	0215	S12	E12	07	31.0		B	BXO	10	2	2	3
4266		RAMY	07	31	1240	S16	W09	07	30.8		B	BXO	40	11	5	3
4266		HOLL	07	31	1420	S16	W09	07	30.9		B	CSO	40	11	5	4
4266		BOUL	07	31	1430	S18	W09	07	30.9		B	CSO	60	6	5	2
4266	23784	MWIL	07	31	1600	S16	W10	07	30.9	4	(B)					
4266		PALE	07	31	1802	S16	W12	07	30.8		B	CRO	40	10	5	4
4266		ATHN	08	01	0700	S15	W17	07	31.0		B	CRO	30	4	5	2
4266		RAMY	08	01	1305	S16	W24	07	30.7		B	CAO	20	4	6	2
4266		BOUL	08	01	1355	S15	W25	07	30.7		B	BXO	40	6	6	3
4266	23784	MWIL	08	01	1515	S16	W23	07	30.9	5	(B)					
4266		PALE	08	01	1809	S16	W25	07	30.9		B	CRO	30	8	6	3
4266		ATHN	08	02	0650	S14	W31	07	30.9		B	BXO	20	2	7	3
4266		BOUL	08	02	1238	S13	W39	07	30.6		A	AXX	10	1	1	2
4266	23784	MWIL	08	02	1500	S17	W37	07	30.8	3	(B)					
4266		HOLL	08	02	1712	S15	W42	07	30.5		B	BXO	10	2	3	3
4266		PALE	08	02	1810	S15	W43	07	30.5		A	AXX	10	3	2	4
4266		BOUL	08	03	1330	S15	W50	07	30.8		A	AXX		1	1	4
		RAMY	07	31	1240	S20	W04	07	31.2		B	BXO	20	5	4	3
		LEAR	07	31	0035	S11	E07	07	31.6		A	AXX		1		3

SUDDEN IONOSPHERIC DISTURBANCES

July 1983

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide-spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	SES	Known Flare	NOAA/SESC Region
01	1048	1059U	1148	1	1		1				1045	No data
01	1330	1340	1436	1-	5	4	3	1	1	11	1332	4227
02	0153	0203	0223U	1-	1				1		NF	
02	1339	1342	1402	1	1		1				1329	4234
02	1434	1445U	1512	1	1		1				NF	
02	1722	1738	1811	1	1			1			1731E	4235
02	1845	1852	1900	1-	1						1840	4235
02	1924	1931	2030	1-	5	1		1		10	1918	4235
02	2154	2205	2240	1-	3			1		4	2156	4235
03	0024	0030	0110	1-	3	2		1		5	0020	X-ray
03	0131	0138	0154	1-	3			1	1		0131	4235
03	0917	0927	1000	1-	3			1	1	1	0913	X-ray
03	1446	1458	1520	1-	3		1			1	1443	No data
03	1706	1718U	1740	1	1		1				1709	No data
04	0306	0316	0357	1-	3			1	1		0303	X-ray
04	0606	0616	0648	1-	3			1	1		0609	4235
04	0655	0658	0723	1-	1		1				0655	No data
04	1146	1154	1220	1-	3		2	1	1	2	1148	No data
04	1449	1454	1540	1	5	1	2		1	10	1448	4235
04	1740	1746	1805	1-	3					2	1735	4235
04	1838	1840	1900	1	3	1				7	1833	4236
04	2234	2240	2338	1-	3	1		1		5	2242	4234
04	2253	2258	2315	1-	1					1	2257	4227
05	0425	0430	0510	1-	3			1	1		0424	4236
05	0532	0558	0634	1	1		1				NF	
05	0604	0610	0730	1-	1				1		0603	4235
05	0656	0703	0747	1-	3			1	1		0654	4235
05	0841	0853	0903	1	1		1				NF	
06	0102	0107	0142	1-	3			1	1		0102	4235
06	0248	0256	0322	1-	1			1			0248	4235
06	0949	0959	1036	1	1		1				NF	
06	1027	1037	1118	1-	1			1			NF	
07	0722	0737	0750	1	1		1				0718	4201
08	0623	0629	0708	1-	1			1			0613	X-ray
08	0908	0940U	1012	1	1		1				NF	
08	1701	1717	1752	1	1		1				NF	
09	1203	1220	1250	1	1		1				1206	No data
10	0016	0029	0125	2	1					1	NF	
10	0803	0821	0847	1	1		1				0805	No data
10	1516	1528	1605	1-	1				1		1516	No data
10	1729	1744	1812	1	1		1				NF	
10	1842	1858	1955	1-	3	1		1		7	1839	4235
11	0238	0242	0302	1-	1			1			0236	4236
11	1100	1108	1125U	1	1		1				NF	
11	1257	1312	1355	2	3	2	1	1		3	1259E	No data
11	1712	1720	1737	1	1		1				1717	4235
11	2120	2133	2221	1-	1			1			2119	X-ray
12	0054	0057	0136	1-	1			1			0054	X-ray
12	0432	0500	0643	1	1		1				NF	
12	0721	0735	0801	1	1		1				NF	
12	0823	0831	0849	1	1		1				NF	
12	1814	1817	1835	1-	1					1	1811	X-ray
12	2105	2110	2141	1-	1			1			2103	X-ray

SUDDEN IONOSPHERIC DISTURBANCES

July 1983

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide-spread Index	Number of Station Reports by Type					Known Flare	NOAA/SESC Region
						SWF	SEA	SPA	LF-SPA	SES		
13	0722	0727	0841	1	3	1	2	1	1	1	0723	X-ray
13	0823	0826	0900	1-	1				1		NF	
13	1451	1455	1506	1-	1					1	1446	4235
14	0322	0327	0348	1-	3			1	1		0323	4237
14	1129	1135	1152	1	3	1	1		1	1	1125	X-ray
14	2234	2246	2318	1-	1			1			2234	4247
15	0104	0108	0140	1-	3			1	1		0101	X-ray
16	0800	0802	0818U	1	1		1				0752	4246
17	1054	1119U	1135	1	1		1				NF	
17	1556	1610	1621U	1	1		1				NF	
17	1628	1633	1713	1	1		1				1632	4245
17	1900	1909	1945	1-	1					1	NF	
18	0949	0958	1046	1	1		1				NF	
20	0145	0148	0215	1-	1					1	NF	
21	1406	1415	1448	1	1		1				NF	
21	1506	1513	1538	1	1		1				1457	X-ray
22	0823	0831	0903	1	1		1				NF	
22	1635	1644	1700	1-	3	1				6	1632	X-ray
22	2127	2138	2222	1-	1			1			NF	
23	0915	0943	1152	2	5	2	3	1	1	3	0925E	No data
23	1030	1038	1050	1-	3		1		1		NF	
23	1218	1234	1305	1	3	1	2		1	3	1218	X-ray
23	1937	1945	2000	1-	3	1				3	1934	X-ray
24	0026	0031	0105	1-	1			1			0025	X-ray
24	0452	0458	0530	1-	1			1			0447	X-ray
24	0610	0622	0700	1-	3			1	1		0608	X-ray
24	0823	0829	0848	1-	3		1	1	1		0819	X-ray
24	0912	0926	0949	1-	3			1	1		0908	No data
24	0950	1010	1045	1-	3			1	1		0951	X-ray
24	1058	1104	1223	1	3	2	2	1	1	4	1054	No data
24	1118	1126	1130	1-	1		1		1		NF	
24	1248	1254	1335	1-	3		1		1	4	1247	X-ray
24	1500		1557	1	3	1			1	1	1507	4256
24	1525	1532	1550	1	3				1	1	1524	4255
24	1724	1731U	1800	1	1		1				*	
24	2147	2200	2306	1-	3	1		1		5	2148	4245
25	0054	0110	0127	1-	1			1			0050	X-ray
25	0141	0154	0250	1-	1			1			0130	X-ray
25	0355	0404	0544	3	3	1		1		3	0353	X-ray
25	0545	0552	0654	1-	1			1			NF	
25	1042	1054	1314	2+	5	3	3	1	1	4	1049E	No data
25	1710	1712	1738	1	3		1			2	1707	X-ray
25	1915	1922	1945	1	3					5	1913	X-ray
26	0103	0107	0204	1-	1			1			NF	
26	1142	1202	1300	2	5	3	3	1	1	3	1140	X-ray
26	1704	1718	1900	1+	3	1	1			5	*	
26	1828	1835	1854	1	1		1				NF	
27	2204	2214	2240	1	1-			1			2204	4263
27	2327	2355	0140	2	3	2		1	1	4	2328	X-ray
28	0214	0234	0315	1-	3			1	1		0220	X-ray
28	0450	0512	0620	1-	1				1		NF	

SUDDEN IONOSPHERIC DISTURBANCES

July 1983

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide-spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	SES	Known Flare	NOAA/SESC Region
28	0513	0535	0730	1+	1			1			0506	X-ray
28	1205	1219	1305	1	3	1			1	1	1218E	No data
28	1854	1910	2000	1	3	1				2	1854	X-ray
29	0134	0140	0254U	1-	1				1		0131	X-ray
29	0212	0234	0324	1-	3			1	1		0209	X-ray
29	0357	0407	0428	1-	1			1			0353	4263
29	0455	0517	0555	1-	1			1			NF	
29	1122	1131U	1146	1	1		1				1116	X-ray
29	2106	2121	2227	1-	3	1		1		7	2101	X-ray
30	0906	0913	0925	1-	1				1		0905	4269
30	1119	1134	1220	1+	3	3	3		1	4	1120	No data
30	1511	1519	1600	2	5	2	3		1	13	1454	4269
30	1828	1830	1835	1-	1					1	1820	4263
30	1914	1915	1920	1-	1					1	1912	4263
30	2231	2236	2256	1-	1			1			2230	X-ray
31	0105	0216	0415	1-	3			1	1		0108	4263
31	0139	0210	0400	1-	1				1		0148E	No data
31	0831	0902	1110	2	3	1	2	1	1	1	0829	4263
31	1910	1915	1930	1	1					1	1908	4263
31	2152	2158	2230	1-	3	1		1		3	2151E	4263

OBSERVATORIES REPORTING FOR JULY 1983*

Ayrshire, Scotland (AY)	SES	Missoula, Montana, USA (A31)	SES, SWF
Darmstadt, GFR (DA)	SWF	Panska Ves, Czechoslovakia (PU)	SEA, SWF
Farsta, Sweden (FA)	SES	Patterson, New Jersey, USA (A46)	SES
Frenchtown, Montana, USA (A56)	SES	Portage, Michigan, USA (A51)	SES
Hiraiso, Japan (HI)	SWF	Roswell, New Mexico, USA (RW)	SES
Hobart, Tasmania, Australia (TA)	SEA	San Antonio, Texas, USA (SA)	SES
Houston, Texas, USA (A50)	SES	Sofia, Bulgaria (SF)	SES
Huancayo, Peru (HU)	SWF	St. Cloud, Minnesota, USA (SC)	SES
Inubo, Japan (IN)	SPA	Tavares, Florida, USA (A49)	SES
Juliusruh, GDR (JU)	SWF	Tournal, Belgium (TB)	SES
Kuhlungsborn, GDR (KU)	SPA, SEA	Trenton, New Jersey, USA (NJ)	SES
Lake Hiawatha, New Jersey, USA (A32)	SES	Tucson, Arizona, USA (A9)	SES
Latrobe, Pennsylvania, USA (A19)	SES	Upice, Czechoslovakia (UI)	SEA
Lintong, China (LT)	SPA	Vsetin, Czechoslovakia (VS)	SEA
Louisville, Kentucky, USA (A26)	SES	Walla Walla, Washington, USA (A55)	SES
Maui, Hawaii, USA (MI)	SWF		

*Observations are not necessarily continuous for each reporting station.

SIDs by NOAA/SESC REGION

July 1983

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Region Number																															
4201							1																								
4227	1			1																											
4234		1		1																											
4235		4	1	3	2	2				1	1		1																		
4236				1	1						1																				
4237														1																	
4245																	1														
4246																1															
4247														1																	
4255																								1							
4256																								1							
4263																											1		1	2	4
4269																														2	
X-Ray			2	1				1			1	3	1	1	1						1	1	2	6	5	1	1	3	4	1	
No Flare		2			2	2		2		2	1	3	1				3	1		1	1	2	1	1	1	2		1	1		
No Flare Patrol																															
No Data	1		2	2					1	2	1												1	2	1	1		1		1	1
Event Totals	2	7	5	9	5	4	1	3	1	5	5	6	3	3	1	1	4	1		1	2	3	4	11	7	4	2	5	6	6	5

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01	0000	0736	CULG				0000.0	0420.5	1				IN
			CULG	0315.5	0316.0	2	0315.5	0316.0	2				IIIG
			CULG	0327.5	0328.5	1	0327.5	0328.5	1				IIIG
	0400	1815	BLEN				0447.0	0450.8	3				IIIGG
			CULG				0447.0		2				IIIB
			CULG	0450.0	0450.5	2	0450.0	0450.5	3				IIIG
	0410	0514	WEIS				0450.3	0450.5	3				IIIG,DCIM
			BLEN				0514.5	0515.2	3				IIIGG
			CULG	0514.5	0515.0	1	0514.5	0515.0	1				IIIG
			BLEN				0531.4	0528.4	3				IIIGG
			CULG	0531.5	0533.5	1	0532.0	0533.5	1				IIIG
			CULG	0537.5	0539.0	3	0537.5	0539.0	3				IIIG
			BLEN				0552.5	0559.2	3				IIIGG
			CULG	0558.5	0559.0	1	0558.5	0559.0	2				IIIG
			BLEN				0736.0	0740.8	3				IIIGG
	0601	1843	WEIS				0736.2	0736.4	2				IIIG
			WEIS				0738.1	0738.6	3				IIIG
			LEAR				0738.3	0740.8	1				III
			WEIS				0740.3	0740.9	2				IIIG
			BLEN				0805.7	0811.8	3				IIIGG
			WEIS				0805.8	0805.9	1				IIIB
			WEIS				0807.5	0808.0	3				IIIG
			LEAR				0807.6	0810.1	1				III
			WEIS				0809.7	0810.7	3				IIIG
			BLEN				0824.8	0825.8	3				IIIGG
			WEIS				0824.8	0825.6	3				IIIG,RS,U
			BLEN				0913.2	0918.1	3				IIIGG
			WEIS				0913.6	1914.7	3				IIIGG
			LEAR				0913.8	0914.8	1				III
			WEIS				0915.6	0918.1	2				DCIM
			WEIS				1241.1	1241.2	3				IIIB
			BLEN				1420.8	1421.3	3				IIIG
			BLEN				1444.0	1449.0	3				IIIGG
			WEIS				1444.2	1445.9	2				IIIGDCIM,U
			SGMR				1447.8	1448.0	1				III
			WEIS				1448.6	1449.2	3				IIIG
			BLEN				1651.3	1651.8	3				IIIGG
			WEIS				1651.5	1651.6	2				IIIB,RS
			BLEN				1707.2	1708.0	3				IIIGG
			WEIS				1707.2	1707.7	3				IIIG,DCIM
			WEIS				1759.7	1759.8	2				IIIB
			WEIS				1829.2	1829.4	3				IIIG,U
	2200	2400	CULG	2212.5		1	2212.5		2				IIIG
			CULG				2228.5		1				IIIB,U
			CULG	2311.0	2311.5	1	2311.0	2311.5	1				IIIG
			CULG	2337.5	2338.0	1	2337.5	2338.0	1				IIIG
02	0000	0736	CULG	0033.5	0446.5	1							IN
			CULG				0053.0	0056.5	1				IIIN
	0410	0652	WEIS										
	0400	1815	BLEN				0614.7	0614.8	3				IIIB
			BLEN	1003.1	1003.3	2	1001.8	1003.3	3				IIIG,DCIM
			SGMR				1229.5	1229.6	1				III
			SGMR				1409.6	1410.3	1				V
	0737	1841	WEIS				1410.7	1412.1	2				IIIG
			BLEN				1445.2	1445.7	2				IIIG
	2036	2400	CULG										
03	0000	0736	CULG	0023.0	0024.0	1							DCIM
			CULG	0024.0	0025.5	1	0024.0	0026.5	2				IIIG,V
			LEAR				0024.8	0029.3	1				III
			CULG				0028.5	0032.0	3				II
	0403	1815	BLEN				0403.0E	0404.1	2				IIIG
			CULG	0433.0		1							IIIB
			BLEN				0433.1	0437.9	3				IIIG
			CULG				0438.0		1				IIIB
			BLEN				0455.2	0457.3	3				IIIGG
			CULG				0456.0	0457.5	1				IIIG
			LEAR				0556.6	0557.5	1				III
			LEAR				0652.3	0656.3	1				III
			CULG				0652.5		1				IIIB

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03			CULG				0656.0		2				IIIG
	0542	1457	WEIS				0656.1	0656.4	2				IIIG
	1502	1342	WEIS										
	2036	2400	CULG				2330.0	2342.5	3			II	
04	0000	0721	CULG										
	0403	1239	BLEN				0612.8	0613.4	3				IIIGG
	0412	1058	WEIS				0612.8	0613.3	1				DCIM
	1110	1842	WEIS				1621.1	1622.0	2				IIIG,U
	2036	2400	CULG				2205.0	2400.0	1				IIIN
			CULG				2318.5	2400.0					IIIS,W
			CULG				2324.0	2349.5	2				IIIN
			CULG				2340.0	2400.0					CONT,W
05	0000	0736	CULG				0000.0	0040.0					CONT,W
			CULG				0207.0	0208.5	3				IIIG,V
			LEAR				0207.0	0208.3	1				III
			CULG				0211.5		2				IIIB
	0413	0822	WEIS										
	0859	1638	WEIS				0958.7	0959.1	2				IIIG
			WEIS				1257.9	1258.4	1				IIIG
	0843	1810	BLEN				1332.0	1332.5	1				IIIG
			SGMR				1332.1	1333.8	2				V
			WEIS				1332.1	1334.1	3				IIIGG
			WEIS				1416.8	1420.5	3				IIIGG
			SGMR				1417.8	1418.6	1				V
			SGMR				1419.8	1420.3	1				V
			WEIS				1440.8	1441.1	2				IIIG
			WEIS				1445.3	1446.3	3				IIIG
			WEIS				1529.4	1529.7	2				IIIG
			SGMR				1550.0	1550.1	1				V
			WEIS				1550.1	1550.3	3				IIIG
			SGMR				1551.6	1552.0	1				V
			WEIS				1551.6	1552.3	3				IIIG
			SGMR				1645.0	1645.5	1				V
	1658	1843	WEIS										
			BLEN				1735.6	1735.7	1				IIIB
			PALE				1824.3	1824.6	2				III
			SGMR				1824.3	1824.5	1				III
			PALE				1952.6	1952.8	1				III
	2036	2400	CULG				2122.5		1				IIIG,U
			CULG				2123.0	2159.0					IS,W
			CULG	2232.0	2232.5	1	2232.0	2232.5	1				IIIG
			CULG				2319.0	2323.5	3				IIIGG
06	0000	1736	CULG				0042.0		1				IIIB
	0405	1815	BLEN										
	0408	1842	WEIS				1514.2	1541.8	2				IIIG
	2036	2400	CULG	2105.0	2400.0	1							IS
			CULG	2111.5	2120.5	1	2111.5	2136.0	1				IIIN
			CULG				2117.0	2117.5	2				IIIG
			CULG				2130.5	2131.0	3				IIIG
			CULG				2159.5	2200.0	2				IIIG
			CULG				2345.0	2400.0	1				IN
07			CULG				0000.0	0652.0	1				IN
	0000	0737	CULG	0000.0	0522.0	1							IS
			LEAR				0029.8	0030.1	1				III
			CULG				0043.0		1				IIIB
			LEAR				0044.8	0045.1	1				III
			LEAR				0128.8	0129.8	1				V
			PALE				0129.1	0129.8	2				III
			LEAR				0143.0	0929.0	1				CONT
			CULG	0357.5	0358.0	1	0358.0		1				IIIG
			CULG	0359.0		2	0359.0		3				IIIG
	0405	1815	BLEN				0405.0E	0405.5	1				IIIG
	0409	0736	WEIS										
	0740	1843	WEIS				0756.5	0756.7	1				IIIB
			WEIS				1329.2	1329.3	1				IIIB
			WEIS				1421.3	1421.5	1				IIIB
			WEIS				1705.3	1705.7	2				IIIG

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07			WEIS				1834.0	1834.2	3				III B
	2037	2400	CULG				2132.0		2				III G
			CULG				2133.0	2226.0	1				III G,N
			CULG				2224.0		3				III B
			CULG				2226.0	2226.5	3				III G
08			LEAR				0106.8	0107.0	1				III
			PALE				0336.1	0337.1	3				III
	0405	1149	BLEN										
	0000	0737	CULG				0610.5		3				III B
	0409	1003	WEIS				0610.7	0610.8	2				III B
			LEAR				0616.0	0642.0	1				CONT
			CULG				0628.5	0629.0	3				III G,U
			WEIS				0628.5	0628.9	3				III G,U
			WEIS				0738.6	0738.8	3				III G
			LEAR				0742.0	0929.0	1				CONT
			WEIS				0743.1	0743.3	2				III B
	1118	1309	WEIS										
	1405	1815	BLEN										
	1316	1842	WEIS				1538.7	1539.0	3				III G
	2037	2400	CULG										
09	0000	0737	CULG				0044.0		1				III B
			CULG				0252.0	0256.0	1				III N
	0410	1842	WEIS										
	0405	1810	BLEN				0608.2	0609.4	2				III G
			BLEN				0744.5	0745.0	2				III G
			BLEN				0900.0	1810.0E					I,N
			BLEN				1117.5	1120.6	2				III G
			BLEN				1138.8	1139.1	2				III G
			BLEN				1205.7	1206.0	1				III G
			BLEN	1311.2	1311.4	2							III G
	2037	2400	CULG				2129.5	2234.5	1				III N
10	0000	0737	CULG				0001.0	0004.5	2				III G
			LEAR				0001.3	0002.1	1				III
	0407	0854	BLEN				0407.7	0408.1	3				III G
	0410	0425	WEIS										
	0525	1842	WEIS										
			CULG				0650.0	0656.5	1				III G
			LEAR				0755.5	0810.5	1				II
	2037	2400	CULG				2244.5		1				III B,U
			CULG				2320.5		2				III B
			CULG				2320.5	2321.5	1				III G
11	0000	0737	CULG				0002.0		2				III B
			CULG				0320.5		1				III B
			CULG	0515.0	0709.0	1							IS
			CULG				0636.0	0701.5	1				IN
	0739	1815	BLEN				1030.0	1815.0	1				I,N
			SGMR				1431.3	1432.6	1				III
	0412	1443	WEIS				1431.4	1432.8	2				III G,U
	2037	2400	CULG				2256.0		1				III B
			CULG	2346.5	2400.0	1							IS
12	0000	0737	CULG	0000.0	0215.5	1							IS
			CULG				0113.5		1				III B,U
			CULG	0215.5	0517.0	1	0435.0	0513.5					IN
	0405	1815	BLEN				0406.0E	1815.0D	1				I,N
			CULG				0606.5	0060.7	1				III G,U
			CULG				0704.5		1				III G
	0411	1834	WEIS				1050.9	1051.0	2				III B
			SGMR				1328.8	1329.0	1				V
			WEIS				1328.8	1329.4	2				III G
			WEIS				1401.7	1401.8	2				III G
			WEIS				1421.3	1421.6	1				III B
			WEIS				1429.4	1429.6	1				III B
			BLEN				1443.8	1444.0	2				III G
			SGMR				1444.0	1444.1	1				V
			WEIS				1444.0	1444.3	3				III B
			WEIS				1451.6	1454.4	1				III G

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12			WEIS				1726.5	1726.6	1				IIIB
			WEIS				1738.0	1834.0	2				IIIS
			SGMR				1815.5	1916.6	1				CONT
			PALE				1858.0	1921.0	2				CONT
			SGMR				1858.0	1858.8	1				V
	2037	2400	CULG	2115.0	2142.5	1	2126.0	2209.5	1				IN
			CULG				2224.0		1				IIIB
			CULG				2234.0		1				IIIB
13			LEAR				0056.8	0057.1	1				III
	0000	0737	CULG				0057.0		1				IIIB
			CULG				0108.0		1				IIIB,U
			CULG				0109.5		2				IIIB,U
			CULG				0125.5	0153.0	1				IS
	0426	0705	WEIS										
	0410	1815	BLEN	0722.3	0724.8	3	0722.3	0724.8	3				IIIGG
	0711	1833	WEIS				0722.4	0723.9	3				DCIM,U,RS
			LEAR				0723.3	0724.0	1				III
			WEIS				0842.5	0842.7	1				IIIB
			WEIS				1048.3	1050.0	2				IIIG
	2037	2400	CULG				2221.0	2221.5	1				IIIG
			CULG				2314.5	2315.0	3				IIIG
			CULG				2319.5	2320.5	2				IIIG
			CULG				2335.5	2336.0	1				IIIG
14	0000	0647	CULG				0059.5	0544.0	1				IIIN
			LEAR				0117.6	0119.3	1				III
			CULG				0118.0	0119.5	2				IIIGG
			LEAR				0150.8	0153.3	2				V
			CULG				0151.0	0153.0	3				IIIGG,V
			LEAR				0201.6	0214.1	1				G
			CULG				0213.5	0625.5	2				IIIN
			LEAR				0234.3	0234.6	1				III
			LEAR				0304.1	0310.5	1				III
			LEAR				0322.3	0324.1	3				III
			CULG	0322.5	0323.0	3	0322.5	0324.0	3	0322.5	0323.5	3	IIIG,V
			LEAR				0504.8	0505.1	1				III
			LEAR				0515.8	0518.0	1				III
	0410	1810	BLEN				0515.9	0530.5	3				IIIG
	0426	1308	WEIS				0515.9	0516.3	2				IIIB
			CULG				0516.0		3				IIIB
			WEIS				0517.7	0517.9	2				IIIB
			LEAR				0543.3	0544.1	1				III
			LEAR				0625.1	0625.5	1				III
			WEIS				0625.3	0625.5	2				IIIG
			CULG	0628.5	0629.0	2							I
			BLEN	0628.6	0628.8	3							DCIM
			BLEN				0718.0	0723.2	2				IIIG
			LEAR				0718.1	0719.0	1				III
			WEIS				0718.2	0718.7	3				IIIG
			WEIS				0723.0	0723.7	3				IIIB
			LEAR				0723.1	0724.3	2				V
			BLEN				0750.1	0752.7	3				IIIGG
			WEIS				0750.3	0752.6	3				DCIM
			BLEN				1052.0	1053.8	3				IIIG
			BLEN	1129.1	1130.6	2							DCIM
			BLEN				1129.2	1146.3	3				IIIG
			SGMR				1130.6	1132.8	2				V
			WEIS				1130.6	1133.2	3				IIICCU/V
			WEIS				1145.4	1146.6	3				IIIG
			SGMR				1146.1	1146.3	1				III
			WEIS				1242.3	1250.3	3				IIIGG
			SGMR				1244.1	1249.8	1				V
			BLEN				1244.5	1250.0	3				IIIGG
			BLEN	1443.0	1443.5	2							DCIM
			PALE				1722.1	1722.6	1				III
			SGMR				1723.0	1723.8	1				V
	1311	1831	WEIS				1723.0	1724.2	3				U
			SGMR				1920.5	1922.6	1				V
	2038	2400	CULG	2235.5	2236.0	1	2236.0	2236.5	2				IIIG,V
			CULG				2316.5	2319.0	1				IIIN

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15	0000	0738	CULG				0000.0	0004.0	1				POSS II
			CULG				0342.5	0343.0	1				IIIG
			CULG				0455.0	0642.0	1				IS,C
			LEAR				0516.0	0700.0	1				CONT
			CULG				0536.5		1				IIIB
	0427	1451	WEIS				1149.4	1149.8	2				DCIM
	0415	1815	BLEN				1508.0	1815.0	1				I,N
	1510	1831	WEIS										
	2038	2400	CULG				2322.0		1				IIIB
16	0000	0738	CULG	0035.0	0644.0	1							IN
			CULG				0038.5	0039.0	3				IIIB,U
			LEAR				0038.8	0039.1	1				III
			LEAR				0407.8	0408.1	1				III
			CULG				0408.0		2				IIIB,U
	0415	1722	BLEN				0415.0E	0722.0	1				I,N
	0429	0509	WEIS										
	0606	1829	WEIS				0825.7	0826.2	1				IIIG
			WEIS				1701.8	1702.1	2				IIIB,U
	2038	2400	CULG	2120.0	2121.5	2							DCIM
			CULG				2121.0		2				IIIG
17			BLEN										
	0000	0738	CULG	0320.0	0320.5	1							IIIG
			LEAR				0331.3	0334.0	1				III
			CULG	0331.5	0336.0	2	0331.0	0333.5	2				IIIGG,V
			CULG	0339.0	0340.0	2	0339.0	0340.0	2				IIIGG
			LEAR				0445.8	0446.1	1				III
	0430	1141	WEIS				0930.9	0934.7	3				DCIMIIIGGU
	1236	1828	WEIS				1512.9	1214.3	2				IIIB
			WEIS				1630.8	1633.7	3				IIIGGDCIMU
			SGMR				1631.8	1633.5	1				V
			WEIS				1652.9	1653.8	1				IIIG
			SGMR				1921.6	1923.5	1				V
			PALE				1921.8	1923.6	2				III
	2038	2400	CULG	2105.0	2326.5	1							IN
			CULG				2325.5		1				IIIG
18			LEAR				0331.6	0331.8	1				III
	0000	0738	CULG				0442.0	0549.0	1				IN
			CULG				0549.0	0708.0	1				IS
			CULG	0616.0	0717.0	1							IN
			LEAR				0616.8	0617.3	1				III
			CULG				0617.0		2				IIIG,U
			CULG				0638.0	0639.0	1				UNCLF
	0641	0711	WEIS										
	0740	1848	WEIS				0854.2	0854.3	1				IIIG
			WEIS				0901.3	0910.0	2				IIIGGDCIMU
			WEIS				0917.6	0919.8	2				IIIGDCIM
			WEIS				0936.2	0947.4	2				IIIGGDCIM
	1312	1815	BLEN				1312.0E	1815.0D	1				I,N
			WEIS				1412.7	1413.9	2				IIIG,RS
			SGMR				1412.8	1413.8	1				V
			WEIS				1558.1	1600.3	3				IIIG
			WEIS				1617.0	1709.0	1				I
			BLEN				1634.3	1643.0	1				IIIG
			WEIS				1634.6	1639.1	2				IIIGGDCIM
			WEIS				1642.5	1643.1	1				IIIG
			WEIS				1717.3	1722.0	2				IIIG
			SGMR				1731.5	1731.6	1				III
			SGMR				1734.3	2030.5	1				CONT
	2038	2400	CULG										
			PALE				2127.8	2127.8	2				III
19	0000	0738	CULG										
	0415	1810	BLEN				0452.1	0452.3	2				IIIG
	0514	0813	WEIS										
			BLEN				0546.0	0546.8	2				I,DC
			CULG				0547.0		1				IIIB
			CULG	0618.5		3	0618.5		3				IIIG
			CULG				0622.0	0707.0					IS,W

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19			BLEN				0749.8	0750.3	1				IIIGG
	0816	1834	WEIS										
			BLEN	1711.8	1711.9	1							IIIG
	2038	2400	CULG				2123.0		2				IIIB,U
20	0415	1810	BLEN				0618.5	0619.9	2				IIIG
	0425	1414	WEIS				0618.6	0618.8	3				U
			BLEN				1032.5	1033.5	3				IIIGG
			BLEN				1652.7	1653.2	3				IIIGG
	1420	1833	WEIS				1652.8	1653.3	2				IIIG,U
21			CULG				0038.5	0039.0	1				IIIG
			CULG	0255.5	0344.5	1							IS,W
			CULG				0324.0	0324.5	3				IIIG,U
	0000	0738	CULG				0429.0		2				IIIB
			LEAR				0500.3	0500.6	1				III
			CULG	0511.5		1							IIIB
			CULG	0528.5	0531.5	1	0528.5	0531.5	1				IIIGG
			CULG	0536.5	0537.5	1							IIIGG
			CULG	0556.0	0643.5	1							IN
			CULG				0601.5	0712.0	1				IS
			CULG				0619.5	0620.0	3				IIIG,U
			CULG				0628.5		1				IIIB
	0415	1810	BLEN				0847.1	0847.6	1				IIIGG
			BLEN				0944.7	0952.2	1				IIIGG
	0426	1850	WEIS				0945.3	0945.6	1				IIIB
			WEIS				0947.2	0950.6	2				IIIG
			BLEN				1334.1	1335.2	1				I
			PALE				1937.1	1939.1	2				III
			SGMR				1937.3	1937.8	1				V
			PALE				1940.1	1941.6	1				III
			SGMR				1941.0	1941.1	1				V
			PALE				1954.3	1954.6	1				III
	2038	2400	CULG				2101.5	2154.0	1				IS
	2038	2400	CULG				2131.5		1				IIIB
			CULG				2141.0	2141.5	2				IIIG
22	0415	1810	BLEN				0415.0E	1810.0D	1				I,N
			BLEN				0619.5	0620.5	1				IIIG
			LEAR				0619.6	0620.0	1				III
	0429	0813	WEIS				0619.6	0619.9	2				U
	0821	1120	WEIS										
	1230	1831	WEIS				1425.1	1425.9	1				IIIG
			WEIS				1539.6	1540.9	3				IIIG
			SGMR				1540.0	1540.8	1				V
			BLEN	1547.5	1548.5	1							DCIM
23	0000	0738	CULG										
	0415	0826	BLEN										
	0429	1438	WEIS				1327.7	1328.4	2				IIIG
			SGMR				1327.8	1328.0	1				III
	1443	1829	WEIS				1513.8	1513.9	3				IIIB
			WEIS				1534.4	1537.7	1				IIIG
			SGMR				1537.0	1537.6	1				V
	2235	2400	CULG										
24	0000	0738	CULG	0225.5	0708.0	1							IS
			CULG				0432.5		2				IIIG
			CULG				0527.0		1				IIIB
			LEAR				0541.0	0546.5	1				III
			CULG				0541.5	0643.0					IIIS,W
			CULG				0552.5	0708.0	1				IS
			LEAR				0629.3	0636.8	1				III
			CULG				0629.5		2				IIIG
			CULG				0636.0	0643.0	1				IIIN
			CULG				0636.5		2				IIIB
	0635	1828	WEIS				0636.7	0636.9	1				IIIB
			LEAR				0642.6	0642.6	1				III
			WEIS				0713.0	1744.0	3				DC,IS
			WEIS				0926.6	0927.1	2				IIIG
			WEIS				1034.2	1039.1	1				IIIG

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24			WEIS				1119.3	1120.7	1				IIIG
			WEIS				1123.3	1123.6	1				IIIB
			WEIS				1125.1	1125.3	1				IIIB
			WEIS				1129.3	1129.6	1				IIIB
			WEIS				1157.7	1158.0	1				IIIG
			WEIS				1157.8	1159.1	1				IIIG
			WEIS				1201.7	1202.5	1				IIIG
			WEIS				1220.7	1222.7	1				IIIG
			WEIS				1502.6	1502.8	1				IIIB
			WEIS				1511.3	1511.5	1				IIIB
			WEIS				1517.0	1517.2	1				IIIB
			SGMR				1943.6	1944.5	1				V
	2038	2400	CULG	2057.0	2400.0	1	2057.0	2335.0	1				IS
			CULG	2152.0	2157.0	1							CONT
			CULG	2153.5	2158.0	1	2152.5	2200.0	3				IIIG,V
			SGMR				2154.3	2158.0	1				V
			PALE				2154.5	2158.1	2				V
			CULG				2203.0	2244.0	3			II	
			PALE				2210.5	2219.1	1			II	
			SGMR				2210.5	2120.5	1			II	
			CULG				2251.5	2400.0					IIIS,W
			CULG				2323.0	2353.0	1				IIIN
			CULG				2335.0	2400.0	2				IS,C
25			CULG				0000.0	0211.5					IIIS,W
	0000	0738	CULG	0000.0	0130.0	2	0000.0	0100.0	2				IS,C
			CULG				0003.0	0540.5	1				IIIN
			LEAR				0013.0	0228.0	1				CONT
			CULG				0018.0	0027.0	3				IIIN
			CULG				0025.5	0032.0	2				IIIN
			CULG				0052.0	0058.5	2				POSS II
			CULG	0130.0	0210.0	1							IS,C
			CULG	0210.0	0708.5	1	0120.0	0716.5	1				IS
			CULG	0238.5	0242.0	1							CONT
	0431	0854	WEIS										
			CULG				0555.5	0641.5					IIIS,W
	0712	1815	BLEN	0812.0E	1815.0D	2	0712.0E	1815.0D	3				I,N
			BLEN	1045.0	1050.3								CONT
	0900	1827	WEIS				1246.2	1246.3	1				IIIB
	2038	2400	CULG	2056.0	2400.0	1	2103.0	2317.0	1				IS
			CULG				2140.0	2229.5					IIIS,W
			CULG				2244.5	2308.0	1				IIIN,U
			CULG				2314.0	2315.0	2				IIIG,U
26	0000	0738	CULG	0000.0	0705.0	1							IS
			CULG				0036.5	0644.0	1				IIIN,U
			CULG	0106.0		1	0106.0	0520.0	2				IIIG,N
			LEAR				0106.1	0106.5	1				III
			CULG				0118.5		3				IIIB
			LEAR				0246.6	0247.1	1				III
			CULG				0356.0	0358.0	3				IIIG,V,U
			LEAR				0356.6	0358.1	2				V
	0410	1815	BLEN				0410.0E	1815.0D	2				I,N
			CULG				0431.0	0502.0					IIIS,W
			BLEN				0518.9	0520.0	2				IIIGG
			LEAR				0519.5	0521.1	1				III
	0523	1613	WEIS				1132.2	1132.3	2				IIIB
			WEIS				1145.8	1146.9	1				IIIB
			WEIS				1249.4	1249.6	1				IIIG
			WEIS				1259.4	1259.7	2				IIIB,U
			WEIS				1301.3	1301.6	1				U
			BLEN				1427.8	1428.5	2				IIIGG
			WEIS				1428.0	1428.7	2				IIIG
			SGMR				1428.1	1428.5	1				V
			BLEN	1552.6	1554.7	2							DCIM
			BLEN				1657.8	1708.2	3				IIIGG
	1623	1827	WEIS				1657.9	1658.4	2				IIIG,DCIM
			SGMR				1706.3	1707.1	1				V
			WEIS				1706.4	1707.3	3				IIIG
			WEIS				1713.7	1714.2	2				IIIG
			PALE				1831.6	1832.3	2				V

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26			SGMR				1831.6	1832.0	1				III
			SGMR				1834.1	1834.5	1				III
			PALE				1834.3	1843.1	1				III
			SGMR				1843.0	1843.1	1				III
			PALE				1935.8	1938.1	3				V
			SGMR				1935.8	1936.3	3				III
			SGMR				1937.6	1938.0	2				III
			SGMR				1950.0	1950.1	1				III
			PALE				1950.1	1950.3	1				III
			PALE				2040.8	2044.3	2				V
			SGMR				2041.0	2041.5	1				V
			SGMR				2043.1	2043.8	1				V
			SGMR				2044.1	2044.3	1				III
	2038	2400	CULG	2056.0	2245.0	1							IN
			CULG				2102.0	2312.5	1				IS
			CULG				2111.0	2112.5	2				IIIG,N
			PALE				2111.1	2111.8	1				III
			SGMR				2111.1	2111.1	1				III
			PALE				2140.8	2151.8	3				V
			SGMR				2140.8	2141.1	1				III
			CULG	2141.0	2151.0	2	2140.5	2152.0	3				IIIG,N
			SGMR				2142.8	2143.0	1				III
			SGMR				2151.5	2151.6	1				III
27	0000	0738	CULG				0002.5	0003.0	2	0002.5	0003.0	2	IIIG
			CULG	0118.0	0313.0	1	0035.5	0327.0	1				IS
	0415	1815	BLEN										
			CULG				0436.5	0441.0	2				IIIG,U
			LEAR				0436.8	0437.3	1				III
			LEAR				0850.6	0851.3	1				III
	0432	1826	WEIS				1850.7	0851.5	3				IIIG
	2038	2400	CULG				2101.5	2400.0	1				IN
28	0415	1815	BLEN										
	0000	0738	CULG				0515.0	0516.5	2				IIIG,U
	0432	0942	WEIS				0515.2	0516.3	2				IIIG
			LEAR				0515.3	0520.0	1				V
	1206	1825	WEIS				1730.3	1730.4	1				IIIG
	2038	2400	CULG										
29	0000	0719	CULG				0250.0	0704.0	1				IS,C
	0434	1747	WEIS										
	0415	1815	BLEN				1442.8	1443.8	3				IIIG,U
	1750	1824	WEIS										
30			LEAR				0022.6	0023.3	1				III
			PALE				0022.6	0038.5	2				IIIG
			LEAR				0032.1	0032.6	1				III
			LEAR				0119.3	0119.8	1				III
			LEAR				0227.8	0228.3	1				III
			LEAR				0257.6	0311.1	2				GG
			LEAR				0341.6	0342.5	1				III
			LEAR				0438.0	0438.5	2				III
	0435	1259	WEIS				0438.4	0438.6	2				IIIB
			LEAR				0502.8	0503.1	1				III
			WEIS				0502.9	0503.1	1				IIIB
	0415	1915	BLEN				0611.2	0640.5	2				IIIGG
			LEAR				0611.3	0611.8	1				III
			WEIS				0611.6	0611.9	1				IIIB
			LEAR				0623.0	0642.3	1				G
			WEIS				0623.0	0623.4	2				U
			WEIS				0628.9	0629.7	2				IIIG
			WEIS				0631.7	0632.1	2				IIIG
			WEIS				0640.4	0642.1	3				IIIG
			LEAR				0702.3	0702.5	1				III
			WEIS				0702.3	0702.5	1				IIIB
			BLEN				0730.2	0730.7	2				IIIGG
			LEAR				0730.3	0731.6	2				III
			WEIS				0730.4	0731.7	3				IIIGG
			WEIS				0757.3	0759.6	3				IIIG
			LEAR				0758.3	0758.6	1				III

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30		WEIS				1014.4	1116.5	3				IIIG
		WEIS				1111.6	1111.7	1				IIIB
		SGMR				1114.8	1116.1	2				V
		WEIS				1136.7	1136.8	2				IIIB
		SGMR				1226.8	1227.0	1				III
		WEIS				1226.9	1227.1	2				IIIG
		SGMR				1252.0	1252.1	1				V
		WEIS				1252.1	1252.5	2				IIIG
		WEIS				1258.9	1259.7	3				IIIG
		SGMR				1259.8	1300.1	2				V
	1219	1815 BLEN				1308.2	1308.7	2				IIIGG
		SGMR				1308.3	1308.8	1				V
	1307	1823 WEIS				1308.4	1308.9	2				IIIG
		SGMR				1316.8	1317.0	1				III
		WEIS				1317.0	1317.2	1				IIIG
		SGMR				1325.3	1325.8	1				V
		WEIS				1325.4	1326.1	2				IIIG
		WEIS				1350.8	1350.9	1				IIIG
		BLEN				1405.3	1415.2	2				IIIG
		SGMR				1405.3	1405.8	1				V
		SGMR				1415.0	1415.5	1				V
		SGMR				1455.0	1455.8	1				V
		SGMR				1459.1	1459.3	1				V
		SGMR				1505.6	1505.8	1				III
		BLEN	1510.3	1517.4	3	1510.3	1517.4	3				DCIM
		SGMR				1510.8	1511.3	1				V
		SGMR				1514.8	1515.8	1				V
		BLEN				1614.5	1615.4	3				IIIGG
		SGMR				1614.5	1617.1	2				V
		WEIS				1614.6	1615.9	3				IIIG
		WEIS				1640.7	1640.9	2				IIIG
		BLEN				1642.0	1701.2	3				IIIGG
		WEIS				1642.3	1643.3	2				IIIG
		WEIS				1654.3	1701.8	3				IIIGG
		PALE				1655.8	1701.3	1				III
		SGMR				1655.8	1656.5	1				V
		SGMR				1657.6	1659.0	1				V
		SGMR				1701.0	1701.8	1				V
		SGMR				1731.8	1743.8	1				GG
		WEIS				1731.9	1734.3	3				IIIG,U
		BLEN				1732.5	1734.2	2				IIIGG
		WEIS				1741.3	1743.8	2				IIIG
		PALE				1807.6	1814.3	2				III
		SGMR				1813.5	1828.1	3				GG
		PALE				1818.8	1828.3	3				V
		WEIS				1819.2	1822.1	3				IIIGG
		PALE				1855.8	1856.1	1				III
		SGMR				1855.8	1856.3	1				V
		SGMR				1909.8	1923.6	2				GG
		SGMR				1956.8	2007.3	2				GG
		PALE				1957.1	1957.6	3				III
		PALE				2018.3	2020.1	3				V
		SGMR				2018.3	2020.0	2				V
		PALE				2032.6	2033.3	2				V
		SGMR				2041.1	2051.8	1				V
		PALE				2042.3	2042.6	2				V
		PALE				2051.6	2051.8	1				III
		PALE				2103.6	2107.3	3				V
		SGMR				2103.6	2104.6	2				V
		SGMR				2106.3	2107.3	1				V
		PALE				2137.6	2138.3	3				V
		SGMR				2137.6	2138.3	1				V
		SGMR				2157.0	2200.1	2				V
		PALE				2157.1	2200.6	3				V
		PALE				2210.1	2210.6	1				III
		PALE				2232.1	2240.8	3				V
		SGMR				2232.1	2235.0	2				V
		SGMR				2239.8	2241.0	1				III
		PALE				2248.1	2248.3	1				III
		PALE				2253.3	2253.8	2				III
		PALE				2307.3	2307.6	1				III

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30			LEAR				2323.5	2323.6	1				III
			LEAR				2342.3	2343.3	1				III
31			LEAR				0000.8	0005.1	2				III
			PALE				0000.8	0002.3	2				V
			LEAR				0011.1	0020.6	1				III
			LEAR				0030.3	0041.3	1				G
			PALE				0034.6	0035.5	2				III
			LEAR				0034.8	0036.6	2				V
			LEAR				0112.3	0132.1	2				GG
	0000	0738	CULG	0135.0	0652.5	1							DCIM,N
			LEAR				0136.5	0136.8	1				III
			CULG	0137.0	0711.5	1							IS
			CULG				0138.0	0636.5	1				IIIN
			CULG	0146.0	0147.0	1	0146.0	0148.5	3	0146.5	0148.5	3	IIIG,V
			LEAR				0146.1	0148.1	3				V
			PALE				0146.1	0147.8	3				V
			CULG				0156.0	0159.0	3	0157.0	0201.0	3	IIIG,V
			LEAR				0156.1	0158.6	2				III
			PALE				0156.8	0157.1	2				III
			CULG	0201.5	0202.0	3	0201.5	0202.0	3				IIIG
			CULG				0211.5	0443.0	2	0224.0	0420.0	2	IIIN
			LEAR				0214.1	0218.1	3				V
			PALE				0214.3	0216.8	3				V
			CULG	0215.0	0215.5	1	0214.0	0217.5	3	0214.0	0218.0	3	IIIGG,V
			CULG				0217.0	0725.0	1				IS,DC
			LEAR				0223.6	0243.8	1				G
			LEAR				0252.1	0252.3	1				III
			LEAR				0305.6	0307.8	1				III
			LEAR				0320.8	0321.3	1				III
			LEAR				0335.0	0945.0	1				CONT
			BLEN				0415.0E						I,N
			CULG	0434.0		1	0434.0		3				IIIB
			LEAR				0442.6	0445.3	3				III
	0436	1148	WEIS				0442.9	0445.3	3				IIIGG
	0415	1815	BLEN				0443.8	0445.2	3				IIIGG
			CULG				0444.0	0445.5	3	0444.0	0445.5	3	IIIGG
			CULG	0538.5	0539.5	3	0538.5	0540.0	3				IIIG,V
			BLEN				0538.6	0539.5	3				IIIGG
			WEIS				0538.7	0540.2	3				IIIG,U
			LEAR				0538.8	0540.1	2				III
			BLEN	0540.0	0540.4	2							DCIM
			CULG				0556.0	0703.0					IIIS,W
			BLEN	0652.0	0652.5	2							DCIM
			CULG	0652.0		1	0652.0	0653.5	3				IIIG,U
			LEAR				0652.3	0653.8	2				V
			WEIS				0652.3	0653.7	3				IIIG,U
			WEIS				0702.0	1115.0	3				IS,DC
			BLEN	0816.6	0822.0	1							DCIM
			WEIS				0828.0	1137.0	3				IIIS
			BLEN	0841.0	0841.3	1							DCIM
			WEIS				0841.3	0841.7	3				IIIG
			BLEN	0908.6	0909.0	1							DCIM
			BLEN	0926.2	0926.2	2							DCIM
			WEIS				1036.7	1037.6	3				IIIG
			BLEN				1310.1	1310.2	1				IIIB
			SGMR				1435.8	1441.8	1				V
			SGMR				1517.1	1527.0	1				GG
			SGMR				1622.6	1623.6	1				V
			BLEN	1635.8	1635.9	1							DCIM
			SGMR				1658.8	1659.1	1				V
	1720	1746	WEIS										
			BLEN				1738.9	1739.0	2				IIIG
			SGMR				1804.6	1805.1	1				V
			PALE				1804.8	1809.5	2				III
			SGMR				1805.8	1806.0	1				III
			SGMR				1810.1	1810.3	1				V
			SGMR				1909.0	1910.0	2				V
			PALE				1909.1	1910.1	3				V
			PALE				1930.3	1930.5	2				III
			PALE				1956.0	1957.6	2				V

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JULY 1983

Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
31		SGMR				1956.1	1957.3	1				V
		SGMR				2033.3	2033.5	1				III
		PALE				2033.5	2033.6	2				III
		SGMR				2043.1	2043.5	1				V
		PALE				2043.3	2043.6	2				V
2039	2400	CULG				2051.0	2328.0	1				IIIN
		SGMR				2051.0	2051.1	1				III
		PALE				2051.1	2051.3	2				III
		CULG	2053.5	2151.0	1	2058.5	2246.0	1				IS,C
		CULG				2102.0	2102.5	3				IIIG
		PALE				2102.0	2102.3	3				V
		SGMR				2102.0	2102.1	2				III
		PALE				2131.8	2132.1	2				III
		CULG				2132.0	2326.5	2				IIIG,N
		CULG	2152.5	2153.0	2	2152.0	2153.5	3				IIIG,U
		SGMR				2152.5	2153.1	1				V
		PALE				2152.6	2153.3	2				V
		CULG	2324.5	2325.0	1	2324.5	2325.0	3				IIIG,U
		LEAR				2324.6	2325.1	1				III

The symbols used under the column heading SPECTRAL TYPE have the following definitions:

B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of burst
C = Underlying continuum (parricularly with Type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III

RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity
DCIM = Fast drift

COSMIC RAY INDICES
(Neutron Monitor)

July 1983

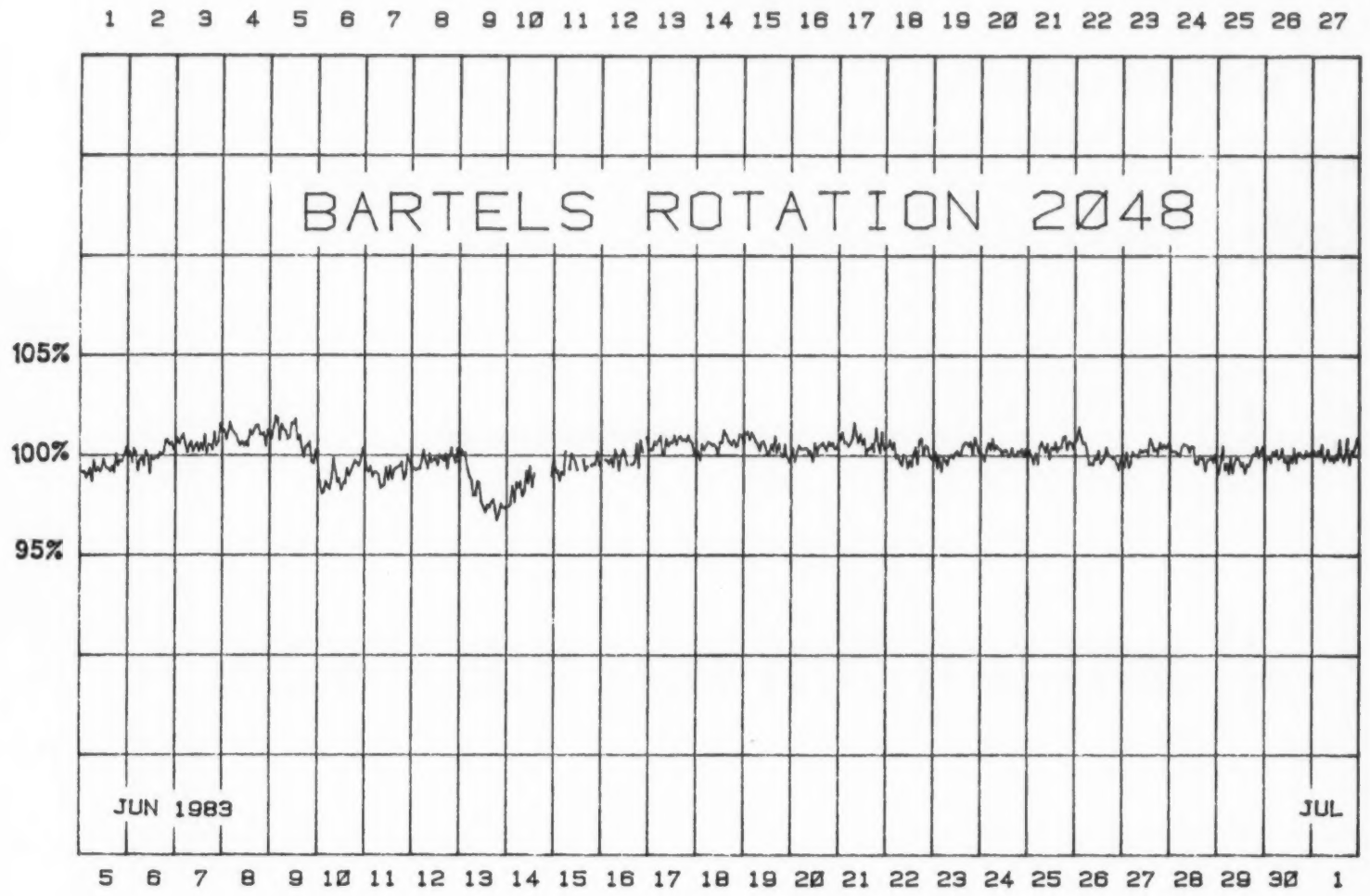
Day	THULE Average (cts/h)/100	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	TOKYO Average (cts/h)/100
1	4075		3680.2	
2	4090		3696.7	
3	4110		3705.5	
4	4122		3724.1	
5	4134		3726.5	
6	4146		3737.0	
7	4151		3756.6	
8	4171		3759.3	
9	4162		3758.4	
10	4172		3766.6	
11	4170		3773.2	
12	4168		3773.0	
13	4161		3773.0	
14	4174		3780.2	
15	4182		3793.3	
16	4192		3798.4	
17	4198		3795.6	
18	4182		3757.7	
19	4149		3723.0	
20	4145		3716.5	
21	4163		3709.8	
22	4165		3741.9	
23	4116		3705.0	
24	4106		3722.1	
25	4130		3730.1	
26	4159		3749.3	
27	4165		3765.7	
28	4179		3768.8	
29	4164		3756.0(34)	
30	4171		3769.2	
31	4193		---	
MEAN	4154		3747.0	

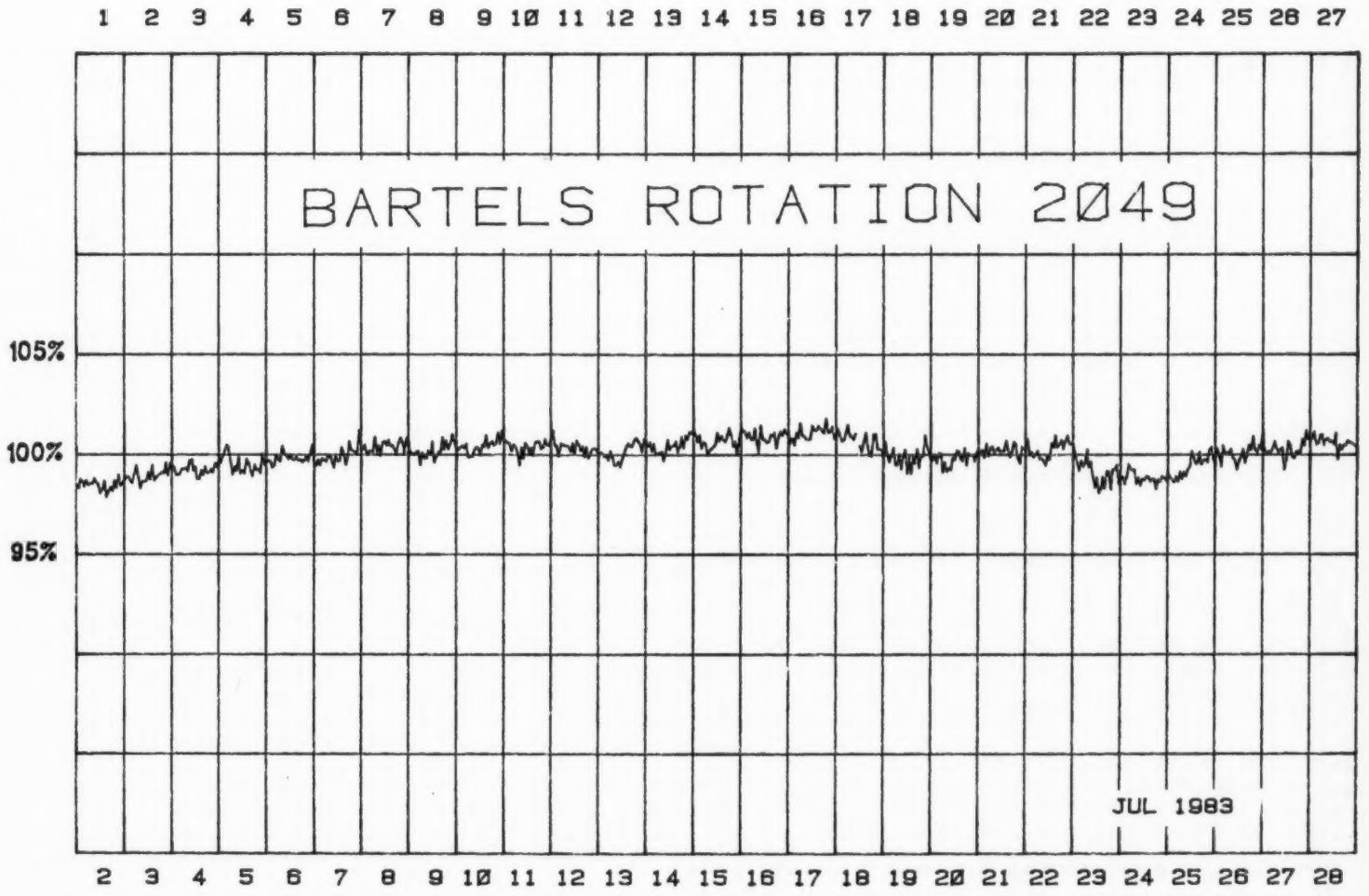
(Data not available at time of publication)

(Data not available at time of publication)

For less than 24-hour coverage, parentheses enclose the number of hours for which data are available. For Climax and Huancayo, parentheses enclose the number of section hours whenever the sum of both sections falls below 40 hours.

THULE NEUTRON MONITOR




1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27
BARTELS ROTATION 2049
105%
100%
95%
JUL 1983
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28

GEOMAGNETIC ACTIVITY INDICES

JULY 1983

Day		Kp Three-Hourly Indices 1	2	3	4	5	6	7	8	Sum	Ap	Cp	Km Three-Hourly Indices 1	2	3	4	5	6	7	8	Am	N	aa Provisional S	M	
1	Q5	2+	2	1	1+	2-	1+	2	1+	13	6	0.3	2	2-	1+	1+	1+	1	1+	1+	9	19	16	17	19	
2		1	2-	1+	1+	2+	3-	3+	3-	16+	9	0.5	1	1+	2-	1+	2-	2	2	2	12	11	20	14	18	
3		3-	2-	2	2+	1+	2	3-	2+	17	8	0.5	3-	2-	2+	3-	1	2-	2	2	16	16	22	16	22	
4		2-	2-	1+	1	2+	3-	3	2	16-	8	0.4	2-	2-	1+	1+	2-	2	2+	2-	12	17	18	13	23	
5	Q4	2-	1	1	2+	2-	2+	1	1	12	6	0.3	2	2+	1+	2+	1+	2	1	1-	12	11	13	10	15	KK
6		2-	2	2+	5-	3+	3-	2+	3-	22-	14	0.8	2-	2+	3-	4	3	3-	2+	2+	25	5	7	5	8	CC
7		1+	2-	2-	3+	4-	3-	3-	4	21	14	0.8	2-	2	1+	3	3	3-	2+	3+	22	7	8	7	8	CC
8		2	2+	3+	2+	2-	2+	2+	3-	19	10	0.6	3-	2+	3+	2+	2+	2+	2+	3-	22	17	17	12	23	
9		3	4-	1+	3+	2	2+	3-	3-	21	12	0.7	3	4-	2	3+	2	2-	2+	3	25	36	39	23	51	
10	Q2	2-	2	2-	1+	1-	1-	1	1-	10-	5	0.2	2-	2+	2	2	1-	1-	1	1-	10	93	89	156	27	
11	Q1	1-	1-	1-	2-	1	1	1-	2	8+	4	0.1	0+	0+	1+	2	1	1	1	2	8	17	25	16	27	
12		2-	1-	1+	2+	4-	4-	5-	4-	22-	16	0.9	2-	1-	1	2-	3	3	4-	3+	22	30	34	41	23	
13		5	4	4	3+	3	1+	1	2	24-	19	1.0	5-	4	4	4-	3	2-	1	2-	35	12	15	12	15	C
14	Q6	1-	2	2+	2	2	2	2-	1	14-	6	0.3	1+	2	3-	2+	2-	2-	2-	1	14	17	16	11	23	
15	Q3	1+	2-	1-	1-	1	1	2-	2	10	5	0.2	1+	2	1	1+	1	1	2-	2	10	46	40	35	51	
16	D4	3-	3+	2	4+	4+	3	4+	4-	28-	21	1.1	3-	3+	2+	3	4-	2+	3+	3+	31	45	36	43	38	
17	D2	4	4	4-	4+	4-	4-	4	4+	32-	26	1.2	4+	4-	4	4	3+	4-	4-	4	50	57	35	31	60	
18	D5	5-	4	3	3	3+	3+	3-	3	27	20	1.0	4+	4	3+	3	3-	3	3-	3-	36	64	41	55	50	
19		3-	2	2+	2+	2-	3	2+	2	18+	9	0.5	3-	2+	2+	2+	2-	3	2+	2	20	29	28	26	32	
20	Q9A	2+	2+	3-	1+	1	1+	2-	2	15-	7	0.4	2+	3-	3	2	1	1+	1+	2	15	27	14	24	18	
21	Q7	1+	2+	2-	2	2-	2	2-	2-	14+	6	0.3	2	3	2	2+	2-	2	1+	1+	16	24	17	20	22	
22		2+	1	1	1	1-	1-	3-	5-	14	10	0.5	3-	1+	2-	1+	1	1	2+	4+	19	14	11	13	12	C
23	D3	3	3+	3+	5-	3	3	5-	4	29	23	1.1	3-	3	4-	5-	3-	3+	4+	4-	43	17	11	8	21	
24	D1	6-	5	4	4-	6	4	4	3+	36-	40	1.4	5+	5-	5-	4	5	4-	3+	3+	67	43	26	18	52	
25		3	4-	3-	2+	3-	2+	2	2-	20+	12	0.7	3	4-	3-	3-	2+	2	2	1+	23	30	26	24	33	
26	Q10A	2+	2	2-	2	2	2-	2-	2	15+	7	0.3	2+	2	2+	2	3-	2-	1+	2-	15	22	26	20	29	
27		1+	2	2	3	2	2	3-	3+	18+	10	0.5	2-	1+	2+	3+	2	2-	2+	3	19	20	14	18	17	
28		1+	2	2	2+	2	3+	3+	3	19+	11	0.6	2-	2	2+	2+	2-	3-	3-	3-	19	17	24	9	32	
29		3	4+	3-	4-	2+	3-	2+	2+	23+	15	0.8	3	4	3-	3	3-	2+	2+	2+	27	30	30	15	45	
30		4	3+	3-	4	3-	2+	3	4	26	18	1.0	4	3+	3-	4+	3-	2	3-	3+	35	27	30	34	23	
31	Q8A	3	2	1+	1+	2+	1+	2-	1+	14+	7	0.4	3-	2	2-	2	2+	2-	2-	1+	15	27	19	19	28	
Mean											12	0.6									23	27	25	26		

Day	Kn Three-Hourly Indices 1	2	3	4	5	6	7	8	An	Ks Three-Hourly Indices 1	2	3	4	5	6	7	8	As
1	2+	2	2-	2-	2-	1+	2-	2-	13	1+	1+	1	1	1-	1-	1-	1	6
2	1+	2-	2	1+	2	3-	3-	2+	16	1-	1-	1+	1+	2-	1+	1	2-	8
3	3	2	3-	3	1+	2+	3-	3-	20	2+	1+	2	3-	0+	1+	1+	2-	12
4	2	2-	2-	2-	2+	3-	3-	2+	17	1	2	1	1-	1	1+	2	1-	8
5	2+	2-	2-	3-	2	2+	1+	1	14	2-	3-	1+	2	1	1+	1-	0+	10
6	2-	2+	3	5-	3-	3-	3-	2+	27	2	2+	2	4-	3	3-	2+	2+	22
7	2-	2-	2-	3+	3+	3-	3-	3+	24	1+	2	1	3	3-	3-	2	3+	20
8	2+	2	3+	3-	2+	3-	2+	3	23	3-	2+	3+	2+	2+	1+	2+	3-	21
9	3	3+	2+	4-	2+	2	3-	3	28	3-	4-	2-	3-	1+	1+	2-	3	22
10	2-	2+	2	2+	1+	1+	1+	1-	13	2	2	2-	1+	0	0+	0+	1-	8
11	1-	1-	2-	2+	1+	2-	1+	3-	11	0+	0	0+	2-	1	0+	0+	1	5
12	2+	1	1	2	3+	4-	4	4-	29	1+	0+	1-	2-	3-	2+	3+	3	16
13	4+	4	4-	4-	3	2	2-	2	36	5-	4	4	4-	3-	1+	1-	1	34
14	1+	2+	3-	2+	2	2	2	1+	16	1+	2	2+	2+	1+	2-	1	1-	11
15	2-	2	1	2-	1+	1+	2	2+	12	1+	2+	1	1	0	1-	1+	2-	8
16	3-	3+	3-	4-	4+	3	4	3+	39	3-	3+	2+	2	2+	2-	3-	3	23
17	4+	4-	4	4+	3+	4-	4-	4-	49	4	3+	4	4-	3	4-	4-	4+	50
18	4	4-	3+	3	3	3	3-	3-	36	4+	4+	3+	3	2	3-	2+	3-	36
19	3-	2+	3-	3	2-	3	2+	2	21	3-	3-	2+	2	2-	3	3-	2	20
20	2	3-	3	2+	1+	2-	2-	2	17	2+	3-	3	2-	0	1-	1	2	14
21	2-	3-	2	2+	2-	2+	1+	2-	15	2	3	2+	3-	2	1+	1+	1+	16
22	2	1	2-	2-	1+	1+	3-	4+	19	3-	2-	1+	1+	1-	1-	2-	5-	19
23	3	3+	4-	5-	3	3	4	4-	46	3-	3	3+	4+	2-	3+	4+	4	41
24	5+	5-	5-	4+	5+	4-	4	3	72	5+	5	4+	3+	5-	3+	3-	3+	61
25	3	4-	3-	3	3-	2	2	2-	24	3+	3+	3-	3-	2	2	2	1+	22
26	2+	2+	2+	2+	3-	2+	2-	2	17	2	2	2	2-	3-	1+	1	1+	13
27	2	2-	3-	3+	2+	2+	3-	3	22	1+	1	2	3+	2-	1+	2-	3-	15
28	2-	2	2+	3-	2	3	3-	3	21	2-	2	2+	2	1+	2+	3	2+	17
29	3	4	3-	4-	3	3-	2+	3-	32	3	4	3-	3-	2+	2+	2	1+	23
30	4-	3+	3-	5-	3	2+	3	4-	36	4	3+	3-	4+	2+	2	2	3	33
31	3-	2+	2-	2+	3-	2+	2-	2	18	2+	2-	2	2-	2+	1	1+	0+	12
Mean									25									20

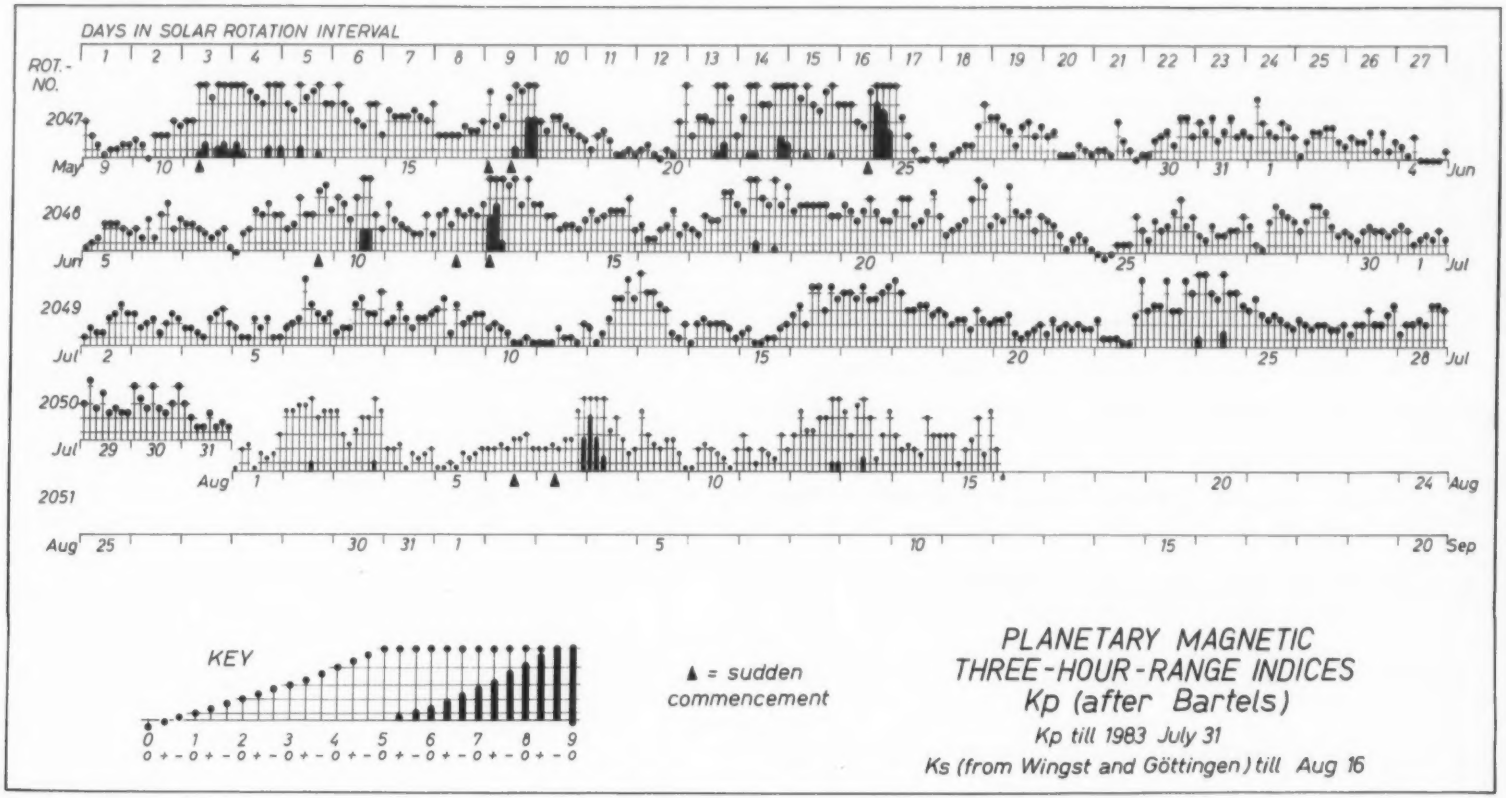
The Geophysikalisches Institut, University of Goettingen, prepares the quiet (Q) and disturbed (D) days, the geomagnetic planetary 3-hour-range indices (Kp), the average amplitude (Ap) and the magnetic character figures (Cp). The 10 most quiet days (Q1-Q10) and the five most disturbed days (D1-D5) are ordered from most quiet and from most disturbed, respectively. A and K mark quiet days that are not really quiet; an asterisk marks disturbed days that are not really disturbed. Geomagnetic 3-hour indices Km, Kn, Ks; daily mean values Am, An, As; and indices aa are prepared by M. Menvielle of the Institut de Physique du Globe, Paris, France. For the aa indices, daily north (N) and south (S) values and half-daily antipodal mean (M) values are given; quiet 24- and 48-hour intervals centered on 1200 UT are indicated by C if they are really quiet and by K if they are quiet with some slightly disturbed

DAILY AVERAGE INDICES A_p

DAY	1982 AUG	SEP	OCT	NOV	DEC	1983 JAN	FEB	MAR	APR	MAY	JUN	JUL
1	12	9	28	36	2	11	11	21	20	24	13	6
2	55	12	24	32	4	7	5	86	16	14	8	9
3	26	21	10	21	9	11	7	36	15	10	6	8
4	15	32	10	8	13	9	59	26	16	26	3	8
5	18	39	9	9	11	6	143	28	17	24	6	6
6	25	199	19	11	3	3	47	12	35	14	11	14
7	107	88	35	4	29	4	43	7	34	8	6	14
8	6	12	21	12	27	9	18	6	25	11	12	10
9	23	50	6	8	18	20	18	8	19	6	20	12
10	27	10	15	11	46	78	23	7	22	8	37	5
11	28	13	14	20	20	11	24	24	8	50	10	4
12	22	14	15	16	14	18	33	53	11	52	16	16
13	10	15	34	18	6	8	35	24	36	37	70	19
14	7	14	30	12	8	8	28	26	45	23	12	6
15	3	12	8	13	11	22	25	15	59	20	17	5
16	6	12	14	9	13	25	30	11	33	9	8	21
17	16	11	21	6	62	25	16	11	19	64	17	26
18	16	30	23	12	41	32	14	20	11	12	37	20
19	10	28	17	10	34	17	10	28	9	5	20	9
20	12	24	14	6	46	14	41	32	13	10	17	7
21	15	76	11	25	37	12	36	12	12	29	20	6
22	24	135	8	30	42	8	21	9	17	51	20	10
23	17	26	5	36	26	10	17	9	17	38	17	23
24	18	22	5	83	19	22	14	10	61	77	6	40
25	20	13	15	54	14	16	6	50	32	11	5	12
26	20	84	30	26	9	12	5	13	28	10	13	7
27	11	42	16	17	18	10	7	3	14	11	8	10
28	12	14	10	28	21	10	8	37	12	5	12	11
29	38	9	35	32	20	16		40	39	5	13	15
30	28	12	27	13	15	19		27	26	9	7	18
31	16		34		7	13		28		11		7
Mean	21	36	18	21	21	16	27	23	24	22	16	12

(100% Reproduction)

GEOMAGNETIC ACTIVITY INDICES


DAYS IN SOLAR ROTATION INTERVAL
ROT.-NO.
2047
May 9 10 15 20 25 30 31 1 4 Jun
2048
Jun 5 10 15 20 25 30 1 Jul
2049
Jul 2 5 10 15 20 25 28 Jul
2050
Jul 29 30 31
Aug 1 5 10 15 20 24 Aug
2051
Aug 25 30 31 1 5 10 15 20 Sep
KEY
0 1 2 3 4 5 6 7 8 9
0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0
▲ = sudden commencement
PLANETARY MAGNETIC
THREE-HOUR-RANGE INDICES
Kp (after Bartels)
Kp till 1983 July 31
Ks (from Wingst and Göttingen) till Aug 16

PRINCIPAL MAGNETIC STORMS

JULY 1983

Sta	Geomag Lat	Commencement Day	Time (UT)	Type	SC Amplitudes D (Min)	H (Gamma)	Z (Gamma)	Maximum 3-Hour K Index Day(3-Hour Periods)	K	Ranges D (Min)	H (Gamma)	Z (Gamma)	End Day	Hour (UT)
HYB	07.6N	06	0200	..	..	..	..	06(4)	5	8	136	28	07	23
GUA	04.0N	06	0713	..	..	..	..	06(4)	5	--	70	20	06	19
HER	33.7S	06	07--	..	..	..	..	06(4)	5	4	62	37	06	12
HYB	07.6N	08	1635	SC	- .2	11	- 1	08(6) 09(1,2)	3	6	74	22	09	23
HYB	07.6N	11	2100	..	..	..	..	12(6)	4	7	101	36	13	15
COL	64.6N	12	11--	..	..	..	..	13(4,5)	6	105	1080	480	13	16
FRD	49.6N	12	16--	..	..	..	..	12(7,8) 13(1)	5	26	104	54	15	--
FRD	49.6N	15	20--	..	..	..	..	16(8) 18(1)	5	23	135	54	20	--
HYB	07.6N	15	1700	..	..	..	..	17(1,6,8)	4	8	113	33	18	22
COL	64.6N	16	00--	..	..	..	..	17(4)	6	127	1150	470	18	17
WIT	54.2N	16	1100	..	..	..	..	16(4,3,7) 17(8)	5	26	140	70	18	04
JAI	17.3N	16	0700	..	..	..	..		-	10	93	37	18	17
SHL	14.7N	16	0700	..	..	..	..		-	--	--	--	18	17
UJJ	13.5N	16	0700	..	..	..	..		-	9	99	39	18	17
ABG	09.5N	16	0700	..	..	..	..	16(3,4,5,8)	4	9	103	60	18	17
GUA	04.0N	16	2311	..	..	..	..	17(1)	5	10	90	20	17	18
TRD	01.1S	16	0700	..	..	..	..		-	6	138	73	18	17
HER	33.7S	17	20--	..	..	..	..	17(8) 18(1,2)	5	34	44	76	18	10
COL	64.6N	22	20--	..	..	..	..	24(5)	7	131	1520	720	25	23
FRD	49.6N	22	20--	..	..	..	..	24(1)	6	30	162	92	26	--
JAI	17.3N	22	2000	..	..	..	..		-	10	149	51	24	23
SHL	14.7N	22	2000	..	..	..	..		-	8	145	45	24	23
UJJ	13.5N	22	2000	..	..	..	..		-	--	163	41	24	23
ABG	09.5N	22	2000	..	..	..	..	17(1,3,6,8)18(3,4,5) 23(7) 24(5)	5	11	171	47	24	23
HYB	07.6N	22	1900	..	..	..	..	24(5)	5	10	194	24	25	17
GNA	43.2S	22	21--	..	..	..	..	22(8) 23(6,7) 24(5)	5	21	110	130	25	17
CNB	43.9S	22	22--	..	..	..	..	24(5)	5	19	128	49	24	18
SIT	60.0N	23	19--	..	..	..	..	24(5)	7	--	--	770	25	09
WIT	54.2N	23	0800	..	..	..	..	23(7) 24(2,5)	5	26	195	90	25	02
BJI	28.5N	23	02--	..	..	..	..	23(4)	5	13	122	42	25	16
GUA	04.0N	23	0230	..	..	..	..	23(1)	5	--	130	30	23	16
GUA	04.0N	23	2130	..	..	..	..	23(8)	5	--	70	30	24	21
HER	33.7S	23	18--	..	..	..	..	24(1,5)	5	25	96	84	25	05
COL	64.6N	28	05--	..	..	..	..	30(4)	7	163	1530	520	30	15
HYB	07.6N	28	1200	..	..	..	..	28(7) 29(2,4)30(4,5)	3	6	105	23	31	03

ABG	ALIBAG	GNA	GNANGARA	HYB	HYDERABAD	SHL	SHILLONG
ANN	ANNAMALAINAGAR	GUA	GUAM	IRK	IRKUTSK	SIT	SITKA
BJI	BEIJING	HER	HERMANUS	JAI	JAIPUR	TRD	TRIVANDRUM
CNB	CANBERRA	HON	HONOLULU	KGL	KERGUELEN	UJJ	UJJAIN
COL	COLLEGE	HUA	HUANCAYO	PMG	PORT MORESBY	WIT	WITTEVEEN
FRD	FREDERICKSBURG						

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SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS

JULY 1983

PRELIMINARY REPORT ON RAPID VARIATIONS

Sudden Commencements (ssc)

n o n e

Solar Flare Effects (sfe)

1	13 32	-	14 00	WNG HAD SPT
4	11 55	-	12 07	MPO
5	11 01	-	11 16	NGK
5	16 00	-	16 11	SPT
6	10 16	-	10 40	NGK (ssc: B: COI)
6	10 53	-	11 26	NGK
8	16 33	-	16 43	SPT (ssc: A: COI; B: WNG)
15	12 13	-	.. ..	SOD
22	00 48	-	00 52	LNP

Reporting observatories:

SOD DOM WNG WIT NGK HAD GCK MMB EBR COI SPT

FRD KAK HTY KNY LNP GAA AMS CZT KGL DUM

RADIO PROPAGATION QUALITY INDICES
July 1983

DAY	TOKYO	NEW YORK	TEHERAN	OSLO	BRACKNELL
1	5.3	6.9	5.8	7.0	6.7
2	5.7	6.9	6.5	9.9	8.8
3	5.5	6.6	6.5	9.7	5.9
4	5.9	6.5	8.7	4.0	4.0
5	7.2	6.5	7.3	8.0	6.2
6	7.1	7.2	7.3	9.7	7.6
7	6.3	7.5	5.5	6.5	8.1
8	5.9	6.9	5.2	6.6	7.3
9	5.9	6.7	5.5	4.1	4.9
10	6.8	7.3	7.2	4.2	3.1
11	7.3	7.0	7.7	4.8	4.7
12	6.7	6.5	6.0	3.9	3.4
13	4.4	5.1	5.0	2.1	1.9
14	6.0	5.1	7.0	1.9	1.3
15	6.0	5.8	5.9	4.3	4.7
16	4.3	5.5	6.8	3.7	5.9
17	4.0	4.4	5.7	8.5	7.8
18	4.3	4.8	4.7	2.6	3.2
19	5.1	5.4	5.7	5.8	5.4
20	5.7	4.8	4.7	6.6	7.3
21	6.3	6.7	5.7	6.3	7.2
22	6.6	6.3	5.1	3.9	4.9
23	6.1	3.0	6.8	2.3	4.2
24	2.9	1.7	5.4	2.3	4.4
25	4.6	3.1	5.1	1.9	2.6
26	5.3	4.2	7.4	4.4	4.4
27	6.0	3.8	7.3	3.9	4.6
28	5.2	3.6	5.0	2.6	2.0
29	5.6	2.9	6.6	3.6	6.4
30	5.2	2.8	4.9	2.9	4.6
31	5.8	4.5	7.3	2.9	2.7
MEAN	5.6	5.4	6.2	4.9	5.0

CALCULATION OF QUALITY INDICES (Q)

From all 24 hourly field strength values and from all frequencies of the same circuit a median field strength value is calculated (FD). This daily value is compared with the average value (FA) of the preceeding 27 days (1 sun rotation).

$$Q = 6.0 + 20 \log(FD/FA)/3.0$$

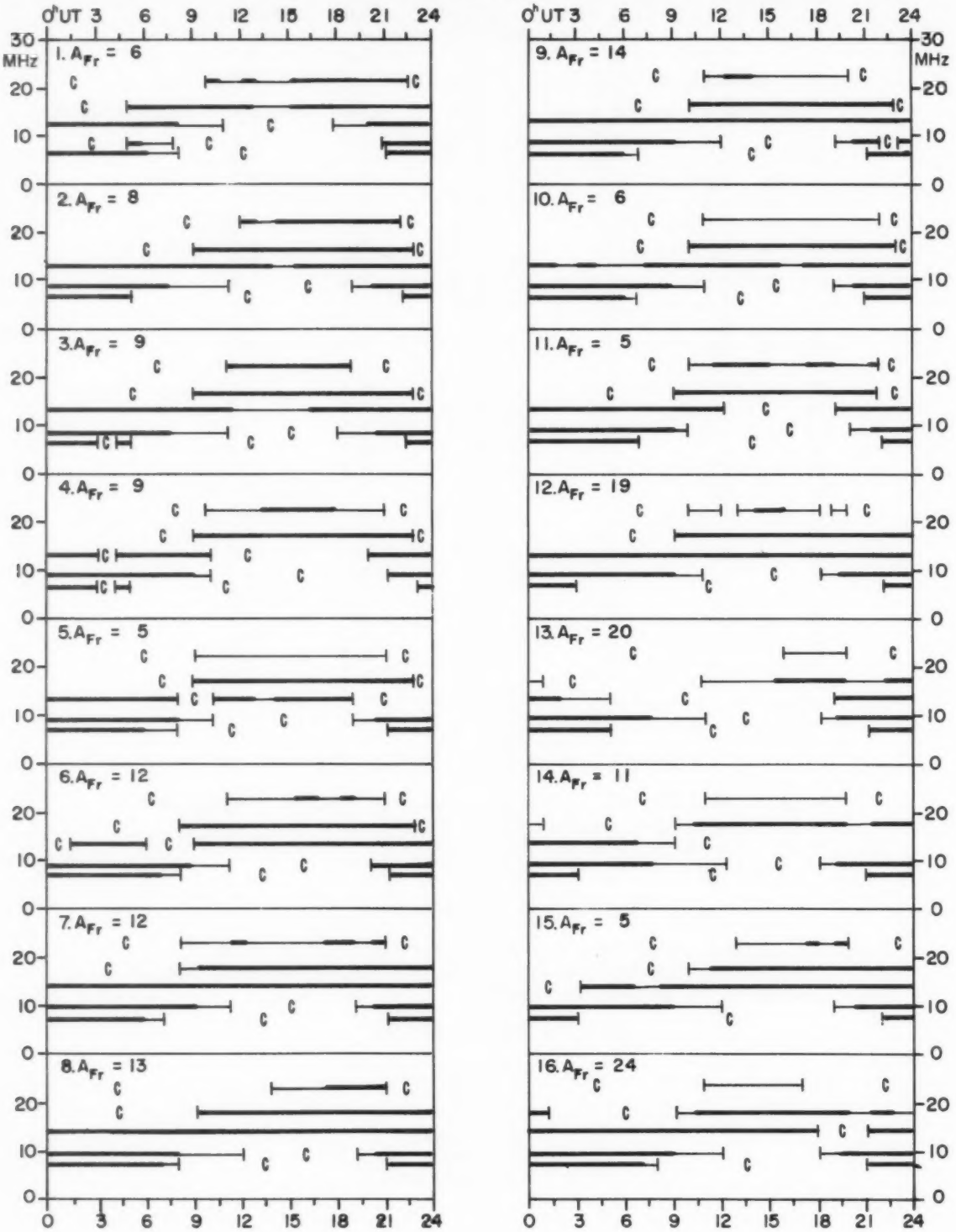
The quality indices vary from 0.0 to 9.9 where 6.0 is normal. Conditions are "normal" (index = 6.0), if they correspond to the average of the preceeding 27 days.

Scale for Quality Indices

0.0 - 1.0 = very poor
1.1 - 3.0 = poor
3.1 - 5.0 = fair
5.1 - 7.0 - normal
7.1 - 9.0 = good
9.1 - 9.9 = very good

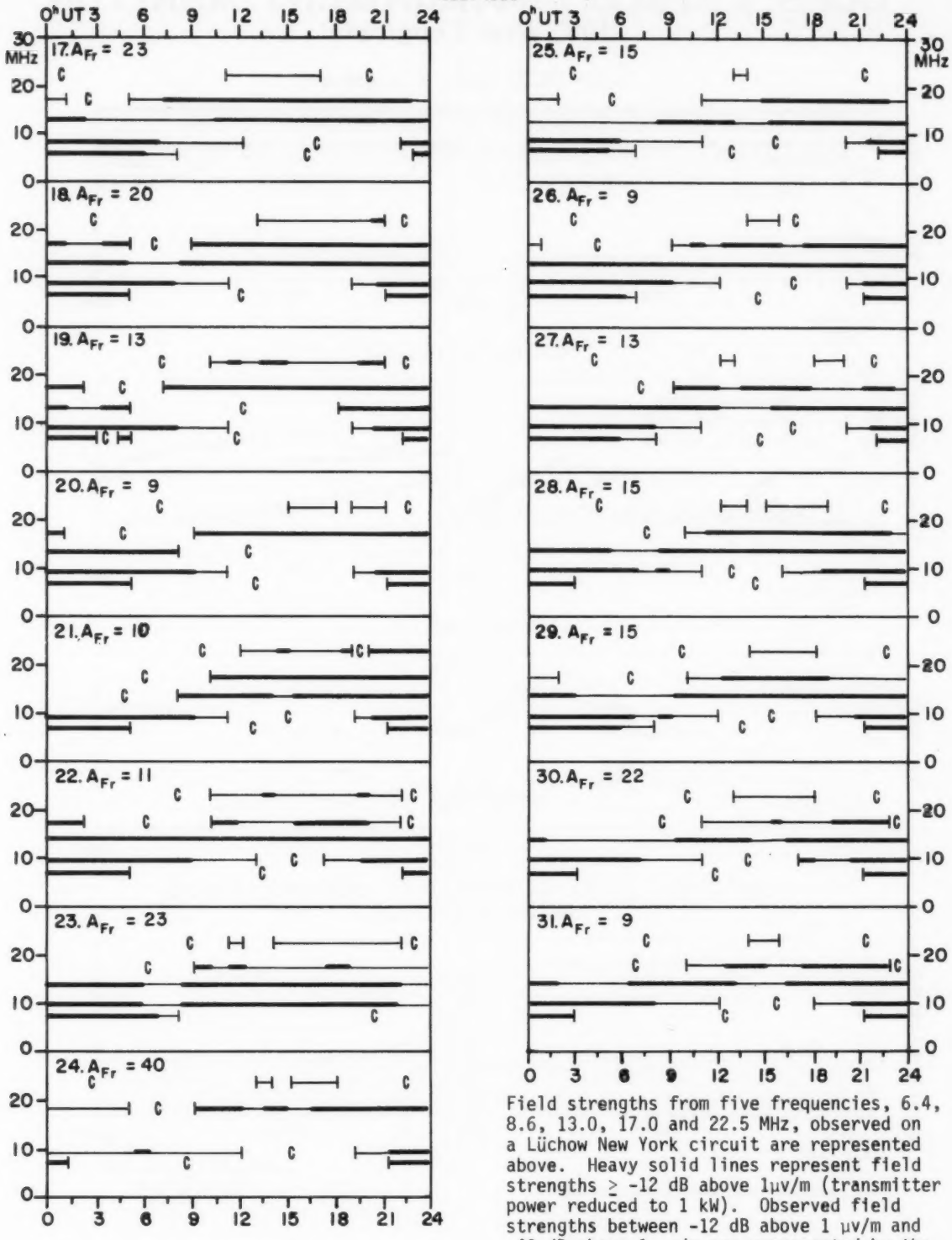
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

JULY 1983



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

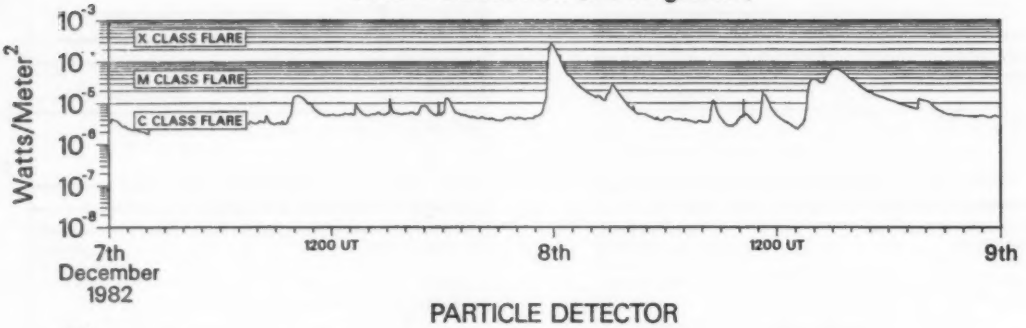
JULY 1983



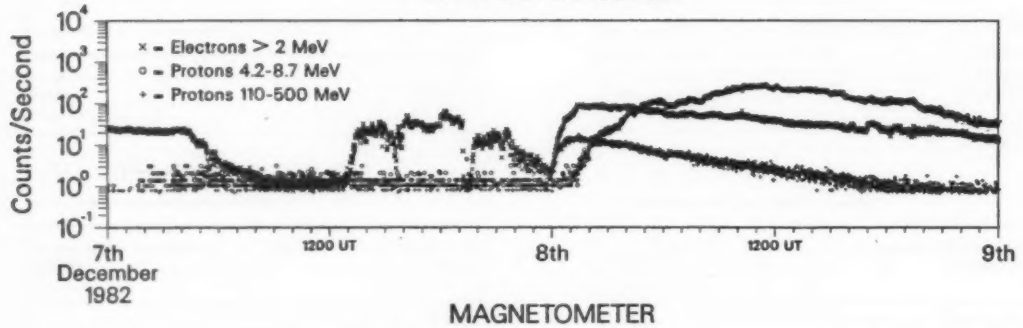
Field strengths from five frequencies, 6.4, 8.6, 13.0, 17.0 and 22.5 MHz, observed on a Lüchow New York circuit are represented above. Heavy solid lines represent field strengths ≥ -12 dB above 1μv/m (transmitter power reduced to 1 kW). Observed field strengths between -12 dB above 1 μv/m and -40 dB above 1 μv/m are represented by the fine line.

GOES-2 SPACE ENVIRONMENT MONITOR
(108° West Longitude)

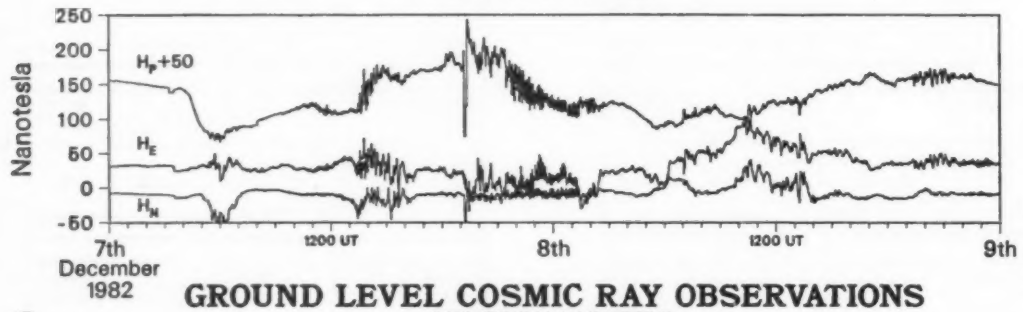
X-RAY DETECTOR (1-8 Angstrom)



PARTICLE DETECTOR

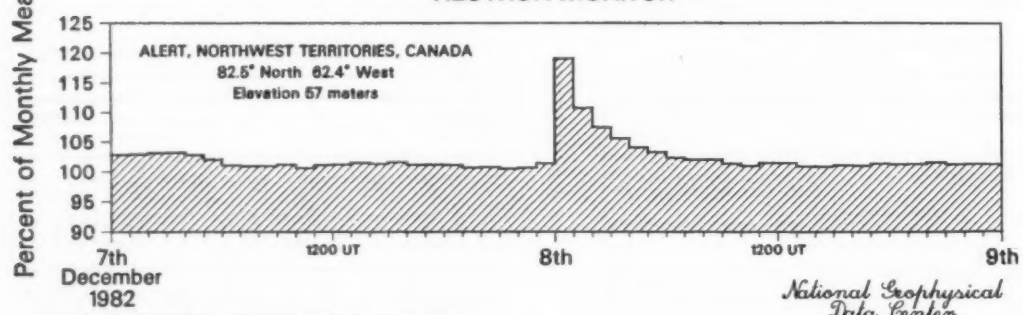


MAGNETOMETER



GROUND LEVEL COSMIC RAY OBSERVATIONS

NEUTRON MONITOR



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